					ST DEPARTMENT DIVISION O	FOF NAT					AMEN	FO DED REPOR	RM 3	
		AP	PLICATION F	OR PE	ERMIT TO DRILL					1. WELL NAME and N		2-34J4CS		
2. TYPE O	F WORK	DRILL NEW WELL	REENTE	R P&A V	WELL DEEPEN	WELL [	)			3. FIELD OR WILDCA	<b>T</b> NATURAL	BUTTES		
4. TYPE O	F WELL				Methane Well: NO					5. UNIT or COMMUNI	TIZATION NATURAL		ENT NAM	1E
6. NAME C	F OPERATOR									7. OPERATOR PHONE				
8. ADDRES	SS OF OPERATO	OR .			S ONSHORE, L.P.					9. OPERATOR E-MAII				
10. MINER	AL LEASE NUM		P.O. Box 1737		iver, CO, 80217  1. MINERAL OWNERS	SHIP				julie.ja 12. SURFACE OWNER		anadarko	com	
(FEDERAL	., INDIAN, OR S	<b>TATE)</b> ITU-0149077			FEDERAL IND	DIAN 🔵	STATE (	) FEE(		FEDERAL (III) INI	DIAN 🛑	STATE	F	EE 🔵
13. NAME	OF SURFACE	OWNER (if box 12 :	= 'fee')							14. SURFACE OWNER	R PHONE	(if box 12	= 'fee')	
15. ADDR	ESS OF SURFA	CE OWNER (if box	12 = 'fee')							16. SURFACE OWNE	R E-MAIL	. (if box 12	= 'fee')	
	N ALLOTTEE OI	R TRIBE NAME			8. INTEND TO COMM		RODUCTION	FROM		19. SLANT				
(if box 12	= 'INDIAN')				- CT-1		ling Applicati	on) NO 🤅	)	VERTICAL DIF	RECTION	AL 📵 H	IORIZON	AL 🔵
20. LOC	TION OF WELL			F001	TAGES	QTI	R-QTR	SECT	ION	TOWNSHIP	R	ANGE	МЕ	RIDIAN
LOCATIO	N AT SURFACE	:	12	03 FSL	497 FWL	SI	WSW	34		9.0 S	2:	2.0 E		S
Top of U	ppermost Prod	ucing Zone	14	16 FSL	1822 FEL	N	NWSE	34		9.0 S	2:	2.0 E		S
At Total	Depth		14	16 FSL	1822 FEL	N	NWSE	34		9.0 S	2:	2.0 E		S
21. COUN	TY	UINTAH		22	2. DISTANCE TO NEA	REST LE		eet)		23. NUMBER OF ACR		ILLING UN 00	IT	
					5. DISTANCE TO NEA Applied For Drilling o		oleted)	POOL		26. PROPOSED DEPT	<b>H</b> D: 9627	TVD: 887	9	
27. ELEV	ATION - GROUN	D LEVEL		28	8. BOND NUMBER					29. SOURCE OF DRIL WATER RIGHTS APPR			PPI ICAR	ı F
		4980		$\perp$		WYB00	00291					3496		
String	Hole Size	Casing Size	Length	Weig	Hole, Casing		ement Info			Cement		Sacks	Yield	Weight
Surf	11	8.625	0 - 2350	28.0			0.2			Type V		180	1.15	15.8
										Class G		270	1.15	15.8
Prod	7.875	4.5	0 - 9627	11.0	6 I-80 LT8	&C	12.	0	Prer	nium Lite High Strer	ngth	300	3.38	12.0
										50/50 Poz		1370	1.31	14.3
					A	TTACHI	MENTS							
	VER	IFY THE FOLLO	WING ARE AT	ТАСН	IED IN ACCORDAN	ICE WIT	TH THE UTA	AH OIL AN	ID GAS	CONSERVATION G	ENERA	L RULES		
<b>w</b> w	ELL PLAT OR M	AP PREPARED BY I	LICENSED SUR	EYOR (	OR ENGINEER		<b>№</b> сом	PLETE DRII	LLING P	LAN				
AF	FIDAVIT OF STA	TUS OF SURFACE	OWNER AGREE	MENT (	(IF FEE SURFACE)		FORM	1 5. IF OPER	RATOR I	S OTHER THAN THE LI	EASE OW	NER		
<b>I</b> ✓ DIF	RECTIONAL SUI	RVEY PLAN (IF DIR	ECTIONALLY C	R HORI	IZONTALLY DRILLED	)	торо	GRAPHICA	L MAP					
NAME Gi	na Becker			TI	ITLE Regulatory Analys	st II			PHON	E 720 929-6086				
SIGNATU	RE			DA	ATE 01/04/2013				EMAIL	gina.becker@anadark	o.com			
	BER ASSIGNED 04753508(	0000		AF	PPROVAL				Bro	osyll				
									Pern	nit Manager				

NBU 922-34M Pad Drilling Program

1 of 4

# Kerr-McGee Oil & Gas Onshore. L.P.

NBU 922-34J4CS

Surface: 1203 FSL / 497 FWL SWSW BHL: 1416 FSL / 1822 FEL NWSE

Section 34 T9S R22E

Uintah County, Utah Mineral Lease: UTU-0149077

#### **ONSHORE ORDER NO. 1**

### **DRILLING PROGRAM**

# 1. & 2. <u>Estimated Tops of Important Geologic Markers</u>: Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta Green River Birds Nest Mahogany Wasatch Mesaverde Sego TVD	0 - Surface 1,121' 1,458' 1,904' 4,307' 6,641' 8,879' 8,879'	Water Water Gas Gas Gas
TD	9,627'	

# 3. <u>Pressure Control Equipment</u> (Schematic Attached)

Please refer to the Standard Operating Practices on file with the BLM Vernal Field Office.

# 4. <u>Proposed Casing & Cementing Program:</u>

Please refer to the attached Drilling Program

# 5. <u>Drilling Fluids Program:</u>

Please refer to the attached Drilling Program

# 6. <u>Evaluation Program:</u>

Please refer to the attached Drilling Program

NBU 922-34M Pad Drilling Program 2 of 4

# 7. Abnormal Conditions:

Maximum anticipated bottom hole pressure calculated at 8879' TVD, approximately equals 5,416 psi (0.61 psi/ft = actual bottomhole gradient)

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 3,486 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

# 8. Anticipated Starting Dates:

Drilling is planned to commence immediately upon approval of this application.

# 9. <u>Variances:</u>

Please refer to the Standard Operating Practices on file with the BLM Vernal Field Office.

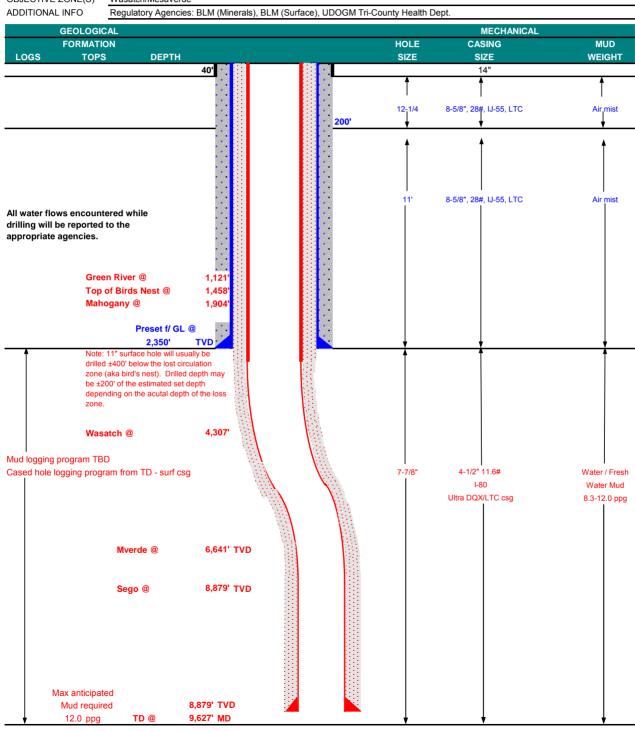
### 10. <u>Other Information:</u>

Please refer to the attached Drilling Program.



# KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM

COMPANY NAME K	ERR-McGE	E OIL & GAS ONS	HORE LP		DATE			
WELL NAME N	IBU 922-3	34J4CS			TD	8,879'	TVD	9,627' MD
FIELD Natural Bu	ıttes	COUNTY	Y Uintah S	TATE Utal	1	FIN	ISHED ELEVATION	4,980'
SURFACE LOCATION	N SWS	W 1203 FSL	497 FWL	Sec 34	T 9S	R 22E		
	Latitude	e: 39.988568	Longitude:	: -109.43	3802		NAD 83	_
BTM HOLE LOCATIO	N NWS	E 1416 FSL	1822 FEL	Sec 34	T 9S	R 22E		_
	Latitude	e: 39.989152	Longitude:	: -109.42	3195		NAD 83	_
OBJECTIVE ZONE(S	) Wasato	ch/Mesaverde	•			•	•	<del>-</del>
ADDITIONAL INFO	Regula	tory Agencies: BLN	// (Minerals), BLI	M (Surface)	UDOGM	Tri-County He	ealth Dept.	





#### **KERR-McGEE OIL & GAS ONSHORE LP**

**DRILLING PROGRAM** 

CASING PROGRA	<u>M</u>								DESIGN FACTORS				
										LTC	DQX		
	SIZE	INTE	ERVAL		WT.	GR.	CPLG.	BURST	COLL	APSE	TENSION		
CONDUCTOR	14"	0-	-40'										
								3,390	1,880	348,000	N/A		
SURFACE	8-5/8"	0	to	2,350	28.00	IJ-55	LTC	2.30	1.71	6.04	N/A		
								7,780	6,350	223,000	267,035		
PRODUCTION	4-1/2"	0	to	5,000	11.60	I-80	DQX	1.11	1.15		2.93		
								7,780	6,350	223,000	267,035		
	4-1/2"	5,000	to	9,627'	11.60	I-80	LTC	1.11	1.15	5.09			

**Surface Casing:** 

(Burst Assumptions: TD =

12.0 ppg)

0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

Production casing:

(Burst Assumptions: Pressure test with 8.4ppg @ 70

7000 psi)

0.61 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

#### **CEMENT PROGRAM**

	FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80	1.15
Option 1		+ 0.25 pps flocele				
TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15
		+ 2% CaCl + 0.25 pps flocele				
SURFACE		NOTE: If well will circulate water to	surface, op	tion 2 will b	e utilized	
Option 2 LEAD	1,850'	65/35 Poz + 6% Gel + 10 pps gilsonite	170	35%	11.00	3.82
		+ 0.25 pps Flocele + 3% salt BWOW				
TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80	1.15
		+ 0.25 pps flocele				
TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION LEAD	3,807'	Premium Lite II +0.25 pps celloflake + .4% FL-52	300	35%	12.00	3.38
		+ .3% R-3 + .5 lbs/sk Kol-Seal + 6%Bentonite II +				
		1.2% Sodium Metasilicate + .05 lbs/sk Static Free				
TAIL	5,820'	50/50 Poz/G + 10% salt + .05 lbs/sk Static Free	1,370	35%	14.30	1.31
		+ 1.2% Sodium Metasilicate + .5 % EC-1				
		+.002 gps FP-6L + 2% Bentonite II				

<sup>\*</sup>Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

#### **FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE

Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe

PRODUCTION

Float shoe, 1 jt, float collar. 15 centralizers for a Mesaverde and 20 for a Blackhawk well. 1 centralizer on the first 3 joints and one every third joint thereafter.

r centralizer on the first 3 joints and one every third joint thereafter.

#### ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

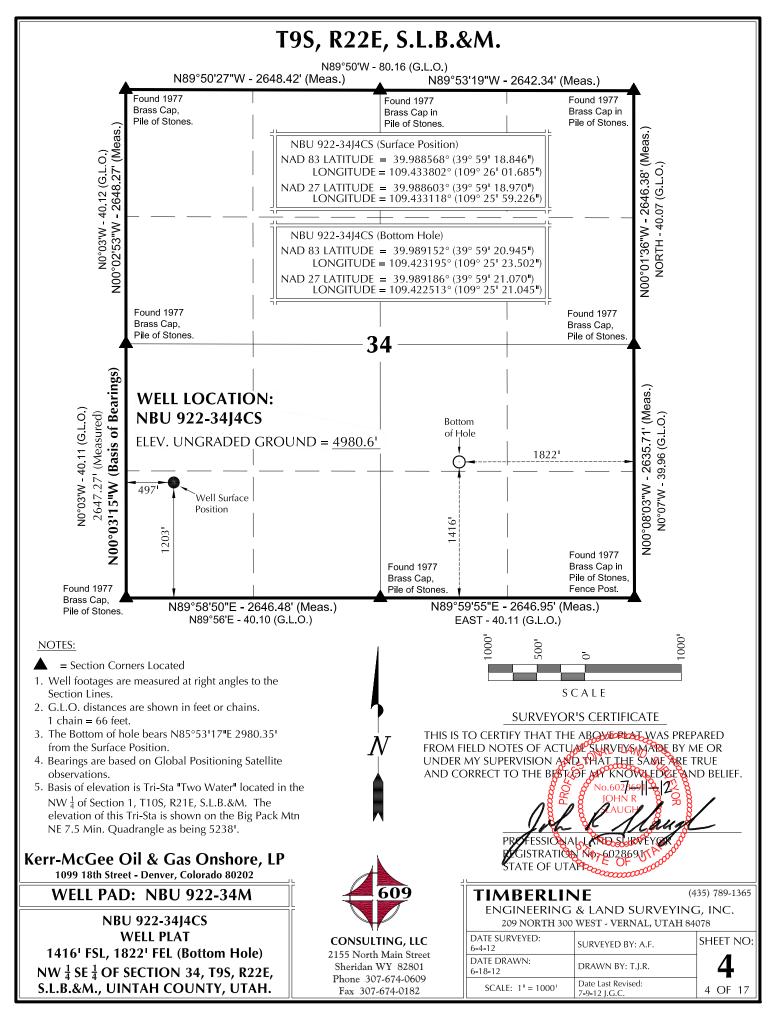
BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

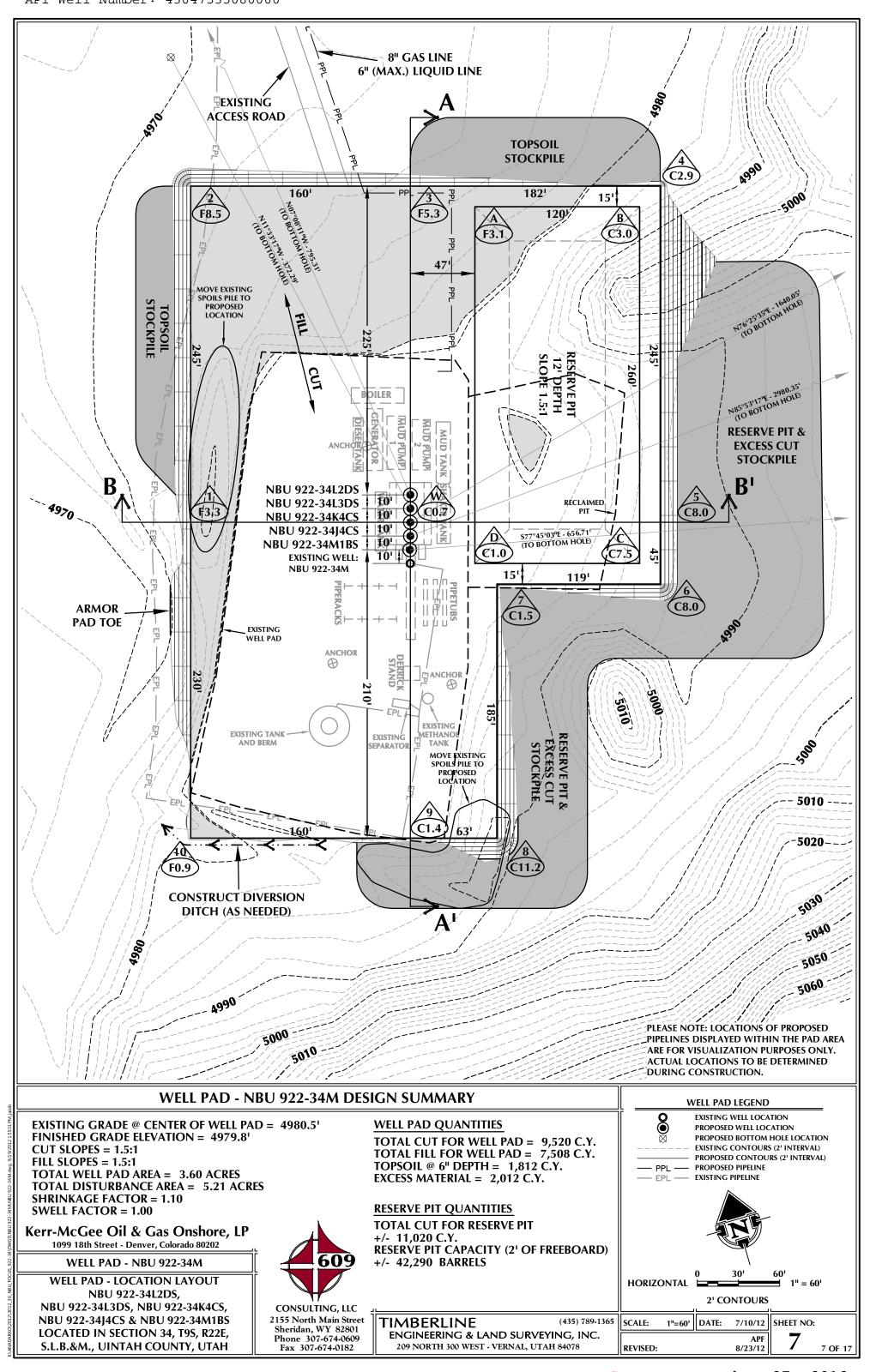
Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

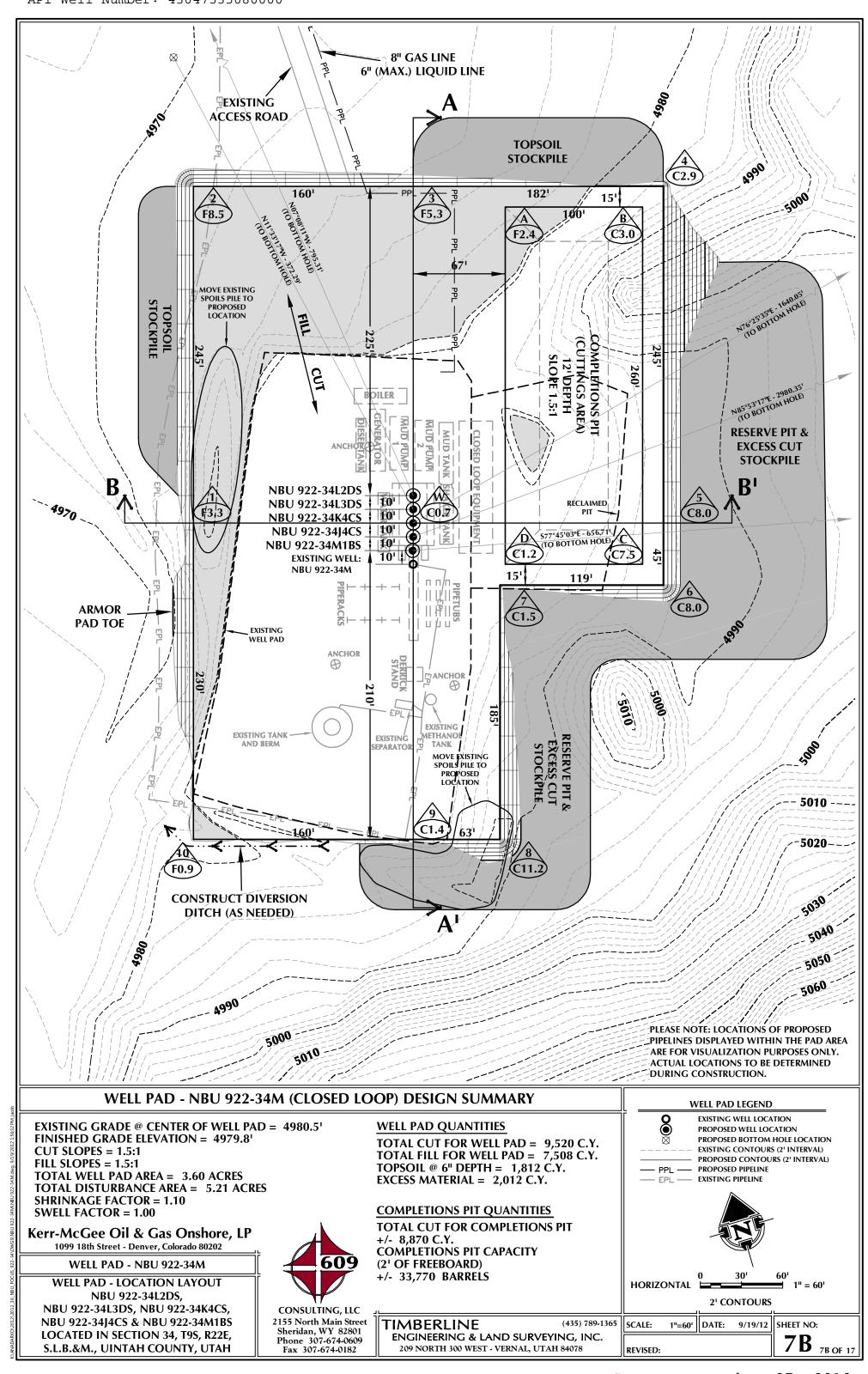
IF e	extreme mud losses are observed OR cement doesn't reach surface on a well on the	e pad, a DV Tool may be used. With Cement Baskets above and Below it.	
DRILLING EN	GINEER:	DATE:	
	Nick Spence / John Tuckwiller / Brian Cocchiere	/ Tyler Elliot	
DRILLING SU	PERINTENDENT:	DATE:	
	Kenny Gathings / Lovel Young		

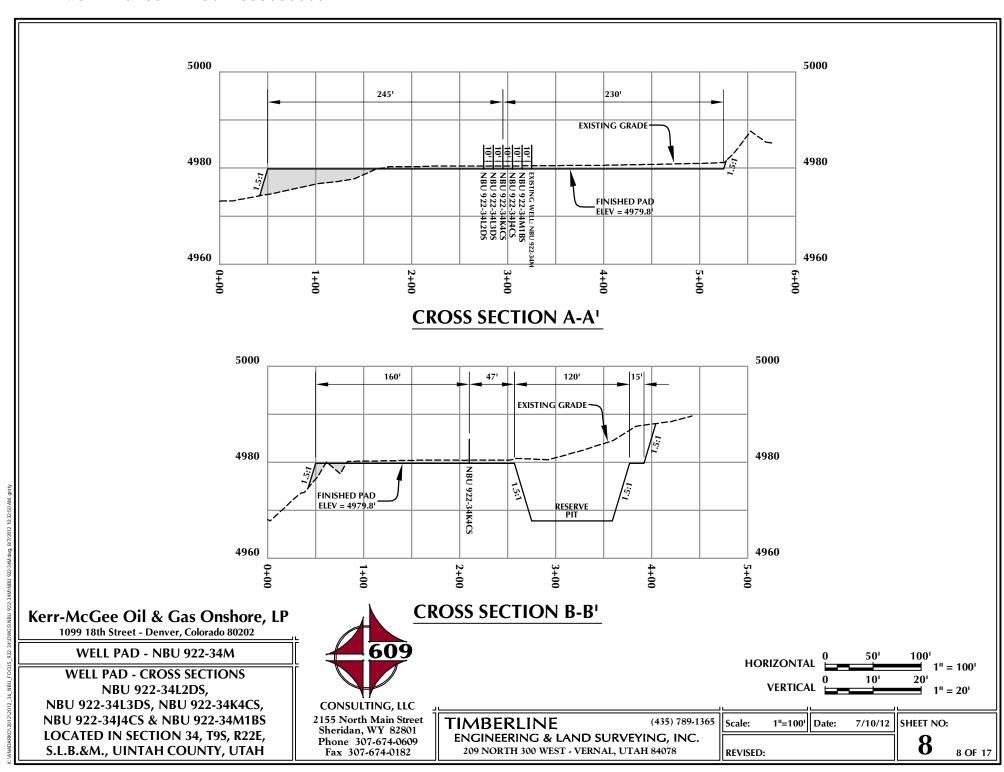
<sup>\*</sup>Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

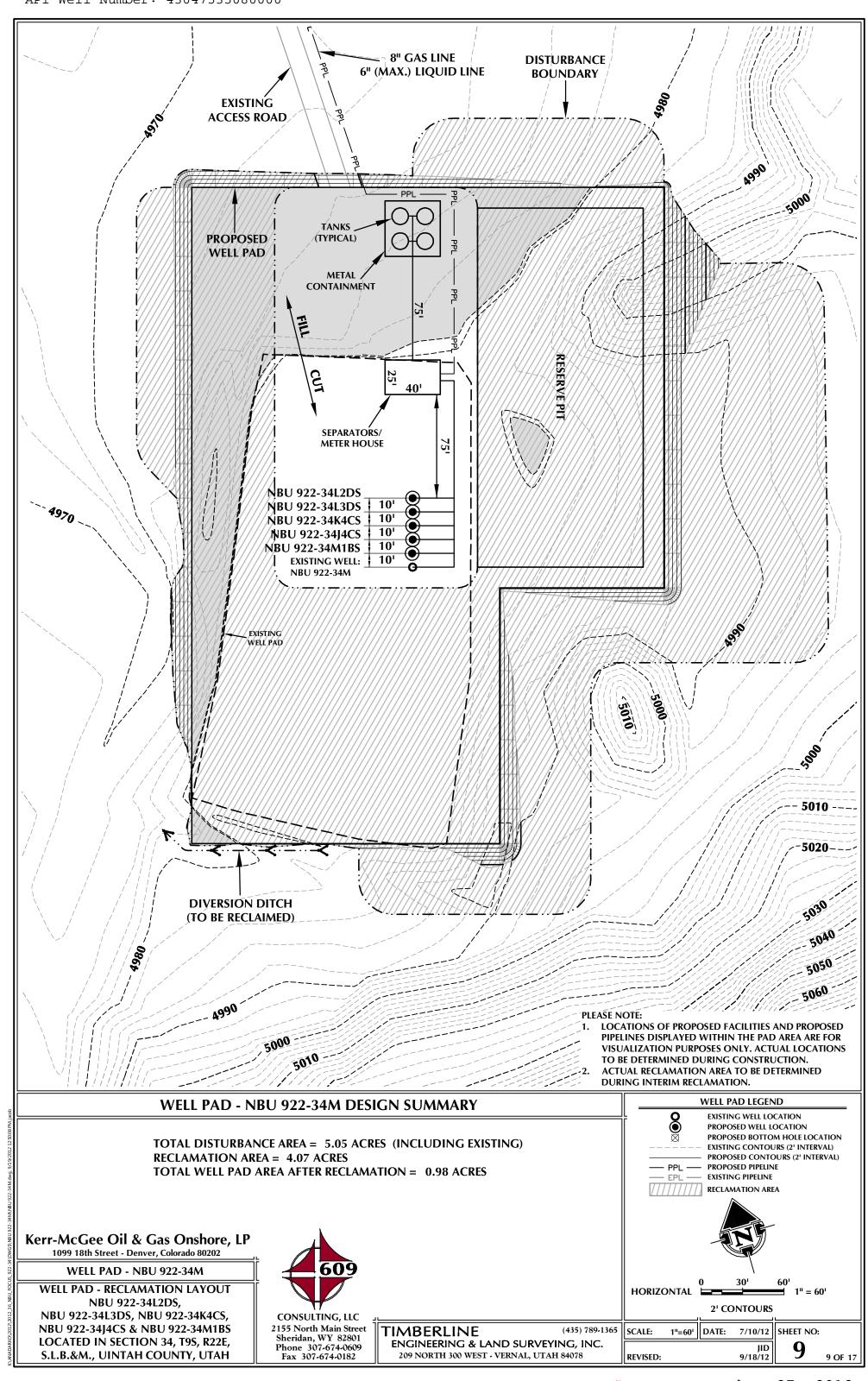


			SURFACE POS	SITION					BOTTOM HOLE		
WELL NAME	NAI		IDE LATITU	NAD27	CITUDE	FOOTAGES		AD83		D27	FOOTAGES
NBU	<b>LATITUDE</b> 39°59'19.130"	109°26'01.5			5110DE 5159.117	FOOTAGES 1232' FSL	39°59'26.92	<b>LONGITUDE</b> 7" 109°26'02.842		LONGITUDE 109°26'00.383'	
922-34L2DS	39.988647°	109.433771	9.98868	2° 109.43	3088°	505' FWL	39.990813°	109.434123°	39.990848°	109.433440°	407' FWL
NBU 922-34L3DS	39°59'19.035" 39.988621°	109°26'01.6		1.00 =0	'59.154" 3098°	1222' FSL 502' FWL	39°59'22.63 39.989622°	9"  109°26'02.569  109.434047°	0" 39°59'22.764" 39.989657°	109°26'00.110' 109.433364°	1587' FSL 428' FWL
NBU	39°59'18.940"	109°26'01.6	649" 39°59'19.	.065" 109°25	5'59.190"	1213' FSL	39°59'22.73	7" 109°25'41.170		109°25'38.712'	1597' FSL
922-34K4CS NBU	39.988595° 39°59'18.846"	109.433791 109°26'01.6			3108° "59.226"	499' FWL 1203' FSL	39.989649° 39°59'20.94	109.428103° 5" 109°25'23.502	39.989684°   39°59'21.070"	109.427420° 109°25'21.045'	2094' FWL 1416' FSL
922-34J4CS	39.988568°	109.433802	2° 39.98860	3° 109.43	3118°	497' FWL	39.989152°	109.423195°	39.989186°	109.422513°	1822¹ FEL
NBU 922-34M1BS	39°59'18.752" 39.988542°	109°26'01.7 109.433813		.876"   109°25 7°   109.43		1194' FSL 493' FWL	39°59'17.37 39.988159°	3" 109°25'53.484 109.431523°	39°59'17.498" 39.988194°	109°25'51.025' 109.430840°	1054' FSL 1135' FWL
NBU 922-34M	39°59'18.656" 39.988516°	109°26'01.7	758" 39°59'18.	.781" 109°25	5'59.299"	1184 FSL			•	'	-
922-34/M	39.900310	109.433822	-	1.031.10		491' FWL	Position to B	ottom Hole			
WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAS	TI TI		ORTH EAST	WELL NAM	ME NORTH	EAST
NBU 922-34L2DS	789.1'	-96.6 II	NBU 922-34L3DS	364.71	-74.6	NBU	4K4CS 3	34.9' 1594.2	NBU	213.71	2972.7'
WELL NAME	NORTH	EAST	922-34L3D3			922-3	+K4C5		922-34J4C	<u>,                                    </u>	
NBU	-139.3	641.8'				l l		/			/
922-34M1BS					T Z,	795.31	) <u>°</u>				
				_	N11°33'17 V. (To Botton	7 - 79	(To Bottom Fully AZ=352.86361°				/ /
				Ŗ	(To Bottom Hole)	$\leq 1/2$	2.8	/ /	/		/ /
				(	) Ott	M11.80°20N	30tt =35	/ /		,	/ / [
					073 8.A	Z     50   180	9 0 E	/ /		/	/ /
	Az to F	Via:			45. 45.	37, 100		/ /			/ / /
	$A_{Z.}$ to $E_X$	ist W.H.=	196 -		)(e) 28°				7=76.42639° Rottom Hol		/ / /
	Az. to Exist. W.H.=196.3952 Az. to Exist. W.H.=196.39526 Az. to Exist. W.H.=196.39526 Az. to Exist. W.H.=196.39528 Az. to Exist. W.H.=196.39528 EXISTING		96.30528° 50			١١ ي		/ A	7=76.42633 Bottom Hol	$\frac{(6)}{40.05}$	<i>[</i>
	Az to Exig	° vv.H.≈19 6t. W.L.	96.39528° 40.	$\frac{100}{0}$ NBU $\frac{1}{2}$	922	/ /		/ / (10	1600 - 16	40.03	′ /
	10 Exist.	W.H = 19	96.39 <sub>529</sub> , 30.0	0'NBU 9	22.34	$L_{2DS}$		/ $N76$	Bottom Holo 25'35"E - 16	05 00006°	
	,	"'.=194. <b>E</b> V:	26972° 1	$N_{RL}$ 92	2.340	$3D_S$	7ò -	L+-	Λ/	一みっ ひひひひり	35'
		EXIS	26972° 10.0'  TING WEL	$V_{BI/D}^{BU}$ 92	2.341	<sup>4</sup> CS	10/10/	/ /	$-\frac{N85^{\circ}53}{-1}$	17"E - 2980	
			3 WEL	$L: N_{RL}$	$34_{M1}$	$CS \longrightarrow I$	[o] — +	· <i>-</i> /		Bottom Hole	=)
				· • • • • • • • • • • • • • • • • • • •	$22.34_{\Lambda}$	35	<u> </u>	AZ=1	92.24917°		′
					-79	1 🌖 Ž	/_	$\int \frac{S77^{\circ}45'0}{1}$	02.24917° 3"E - 656.71' 0m H-T —	/ / /	
						,	<	$(T_{O} \overline{B_{Ott}})$	656.71		
			1			/		-50	3"E - 656.71" om Hole)	/-/- <b></b>	
	1				$AZ = \frac{196.39528}{516.595}$	/				$\setminus / \Gamma$	_
	1				95.	<u>2</u>	/		_	$\mathcal{N}$	
	/		<u> </u>		6.3	<del>2</del>				_/	
					19/c/s	7/				7	
<b> </b>			N	r	1/2			BASIS	OF BEARINGS	IS THE WEST	LINE
					A/S		/		HE SW <sup>1</sup> / <sub>4</sub> OF SEC		
					,		/		&m. Which is Bal positioni		
			Щ		/		/		RVATIONS TO		
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				_/		1	/	.09	30'		.09
		_		/							
Kerr-Mc	Gee Oil 8	<b>∼</b> ∠Gas Ω	nshare I	P		_ /			SCA	L E	
	8th Street - De			-•  -			<u> </u>				
WEL	L PAD - N	NBU 92	2-34M		#	609	7	IMBERI			35) 789-1365
	PAD INTE								ng & land 1 300 west - vei		*
	VELLS - NBU				CONS	JLTING, LL		ATE SURVEYED:	SURVEYED I	3Y: A.F.	SHEET NO:
	)22-34L3DS,  22-34J4CS &				2155 No	rth Main Str	eet 6-	4-12 ATE DRAWN:			
	TED IN SECT					an WY 8280 307-674-060	$^{1}$ $\parallel$ $_{6}$ -	18-12	DRAWN BY	: 1.J.K.	l b
LOCAT	LD III SECT	1011 34, 1	<i>33,</i> <b>11222</b> ,	11	I HOHE	301-014-000	9 11	SCALE: 1" = 601	Date Last Rev	icod:	•









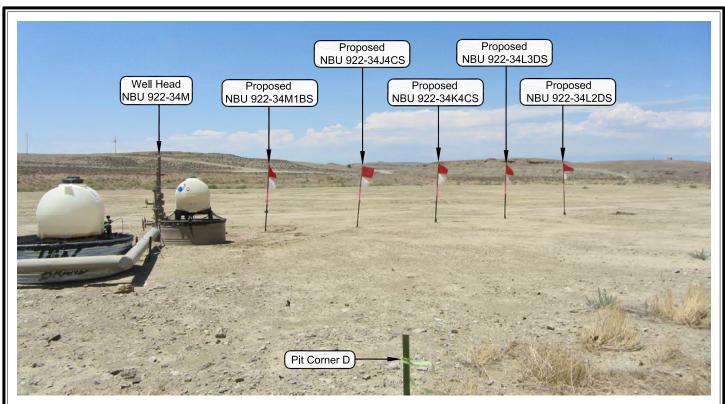


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE

**CAMERA ANGLE: NORTHWESTERLY** 



PHOTO VIEW: FROM EXISTING ACCESS ROAD

**CAMERA ANGLE: SOUTHERLY** 

# Kerr-McGee Oil & Gas Onshore, LP

# WELL PAD - NBU 922-34M

LOCATION PHOTOS
NBU 922-34L2DS,
NBU 922-34L3DS, NBU 922-34K4CS,
NBU 922-34J4CS & NBU 922-34M1BS
LOCATED IN SECTION 34, T9S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH.



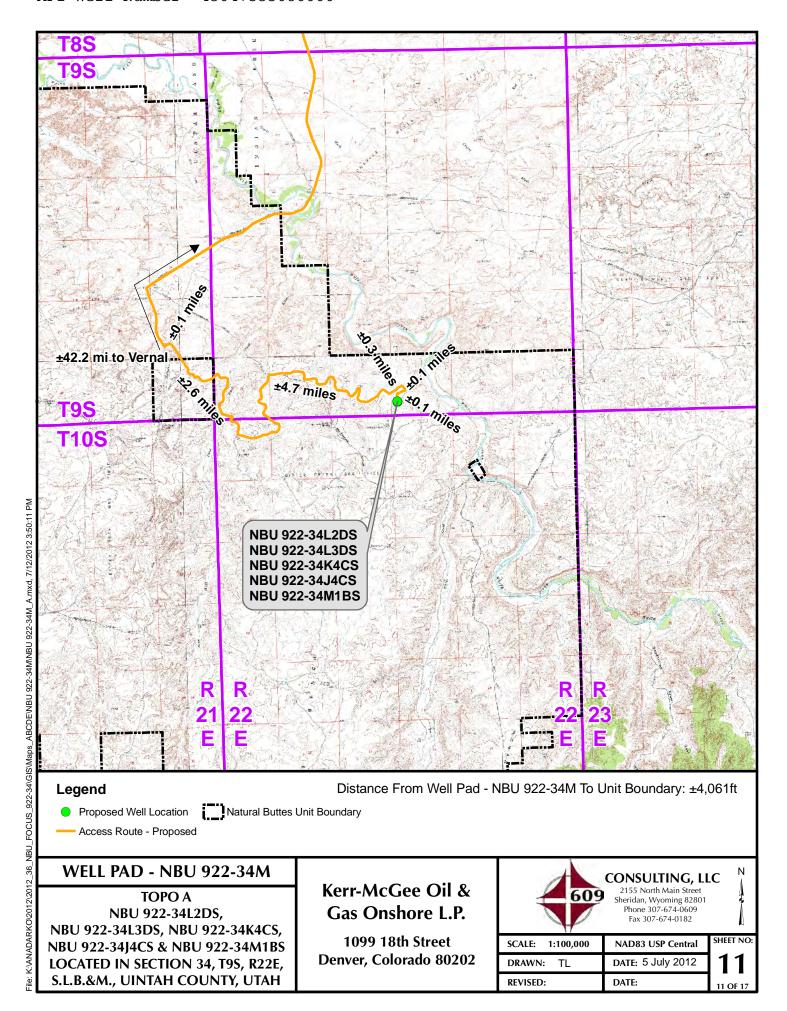
#### CONSULTING, LLC 2155 North Main Street Sheridan WY 82801 Phone 307-674-0609 Fax 307-674-0182

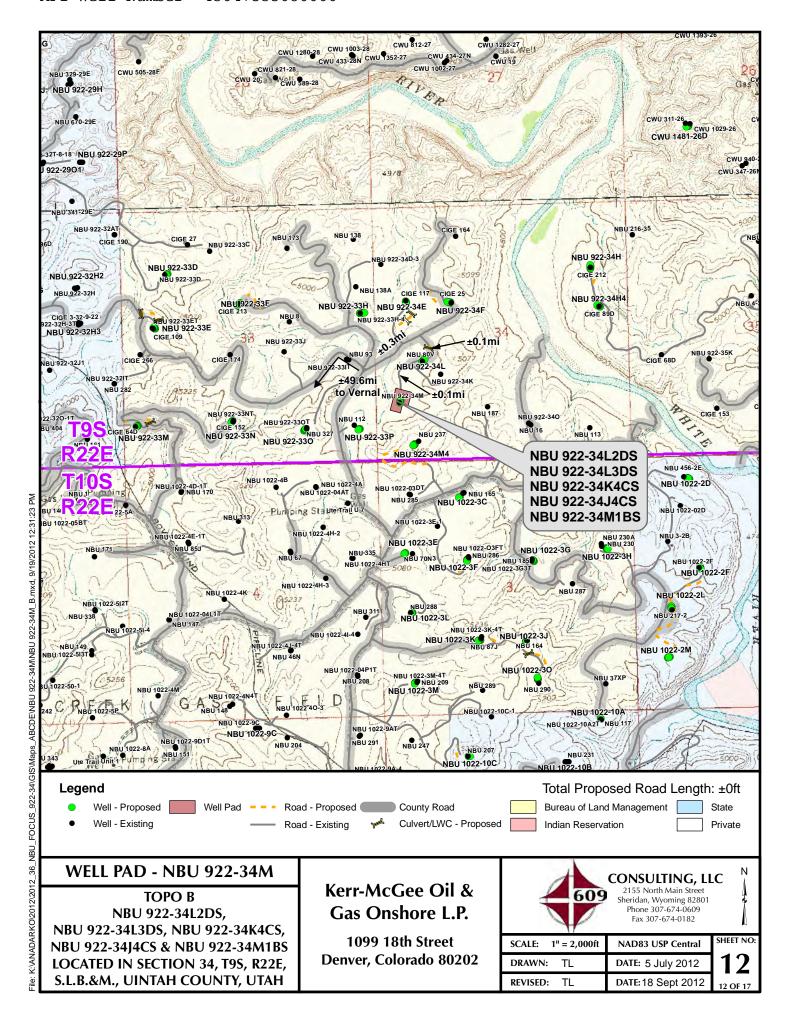
#### TIMBERLINE

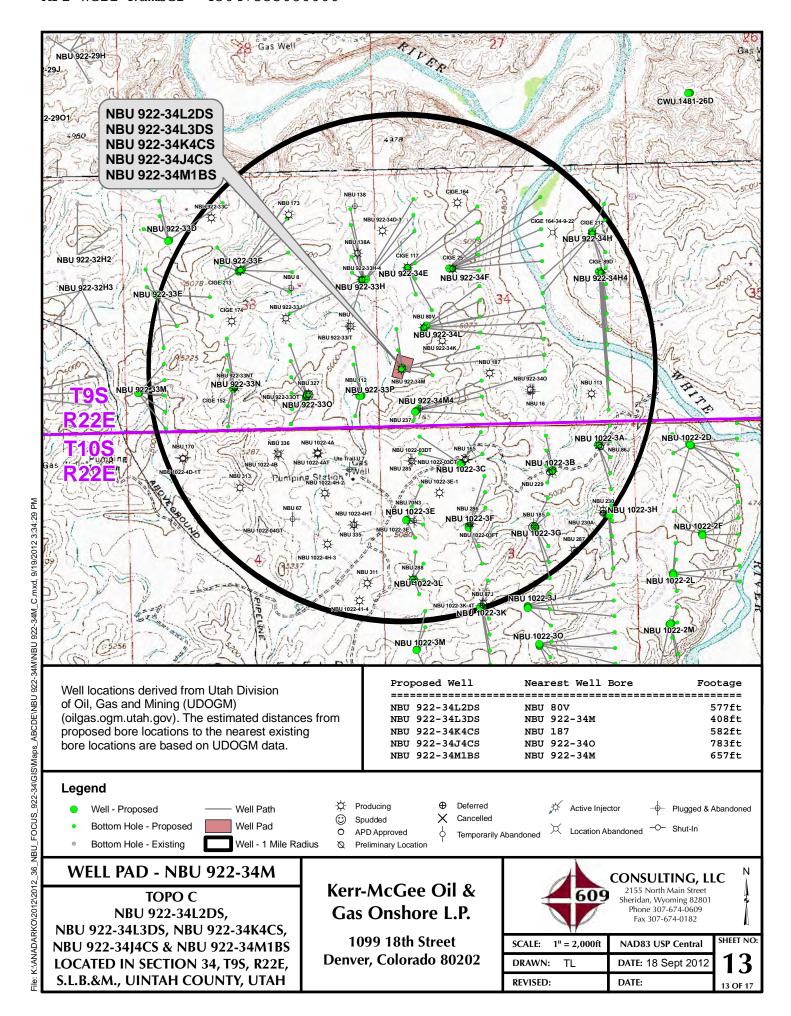
(435) 789-1365

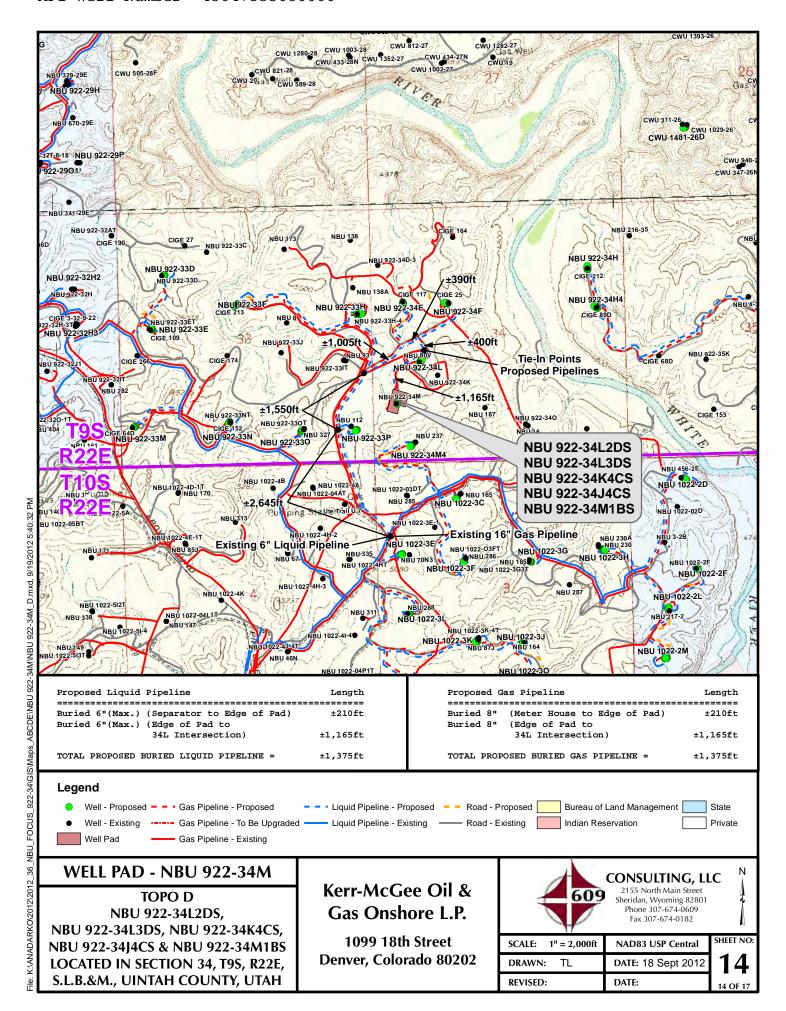
ENGINEERING & LAND SURVEYING, INC. 209 NORTH 300 WEST - VERNAL, UTAH 84078

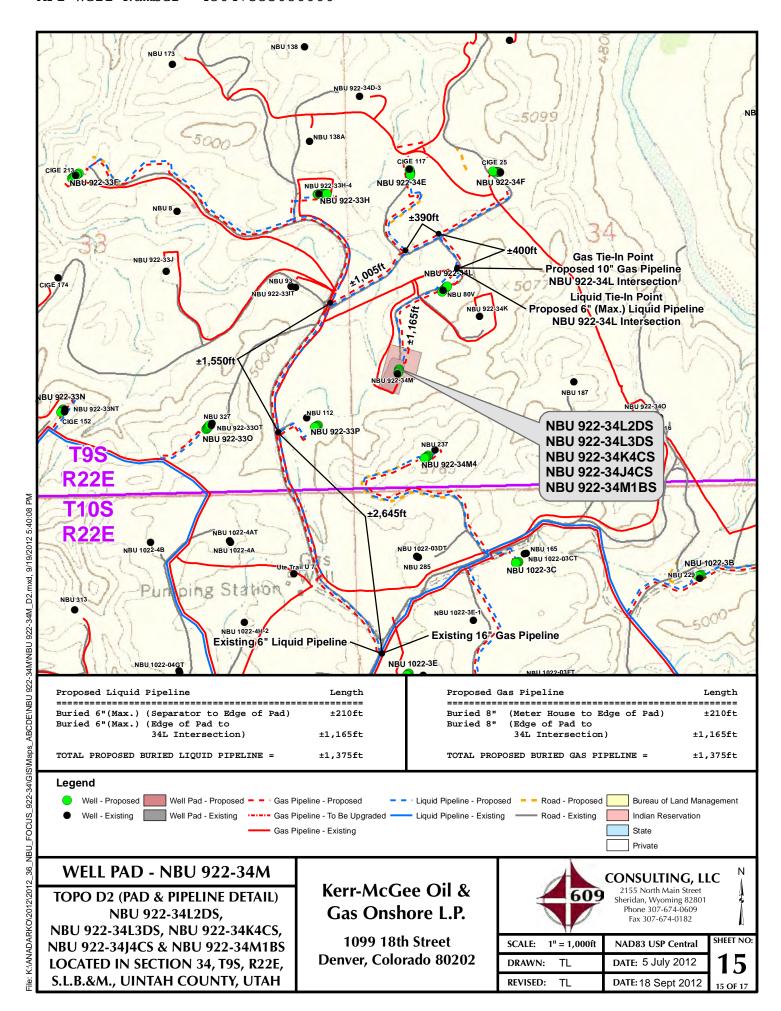
DATE PHOTOS TAKEN: 6-4-12	PHOTOS TAKEN BY: A.F.	SHEET NO:
DATE DRAWN: 6-18-12	DRAWN BY: T.J.R.	10
Date Last Revised: 7-9-12 J.	.G.C.	10 OF 17

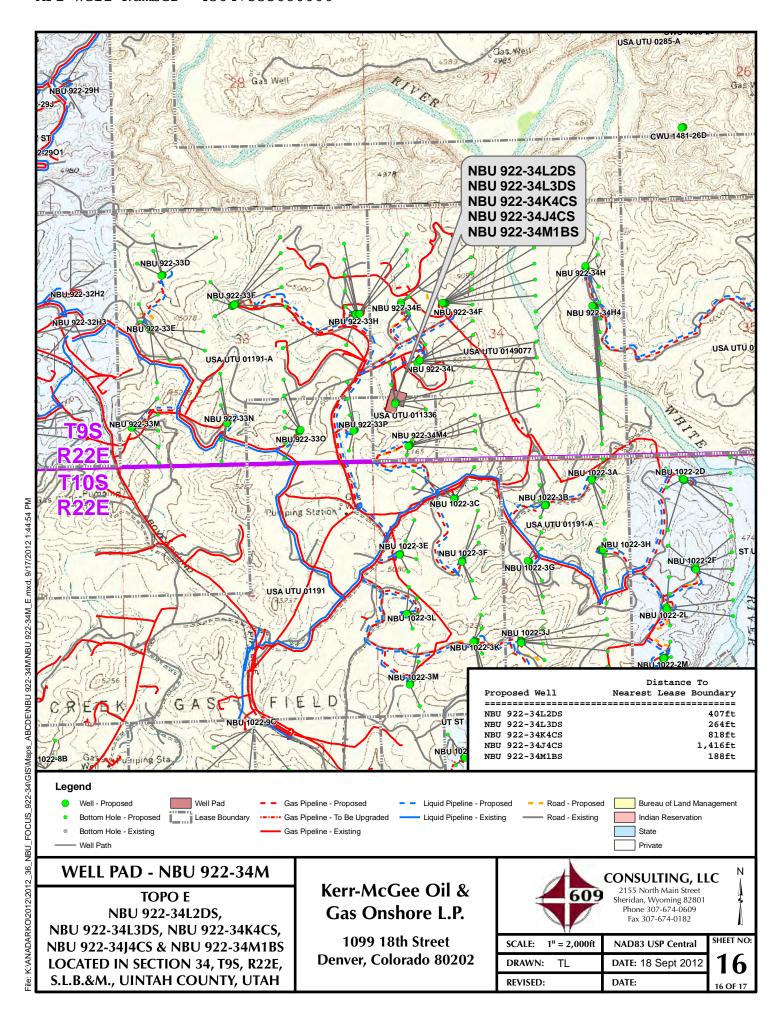












Kerr-McGee Oil & Gas Onshore, LP WELL PAD – NBU 922-34M WELLS – NBU 922-34L2DS, NBU 922-34L3DS, NBU 922-34K4CS, NBU 922-34J4CS & NBU 922-34M1BS Section 34, T9S, R22E, S.L.B.&M.

From the intersection of U.S. Highway 40 and 500 East Street in Vernal, Utah, proceed in an easterly, then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45; exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 18.7 miles to a Class D County Road to the northeast. Exit left and proceed in a northeasterly direction along the Class D County Road approximately 0.1 miles to a second Class D County Road to the southeast. Exit right and proceed in a southeasterly direction along the second Class D County Road approximately 2.6 miles to a third Class D County Road to the east. Exit left and proceed in an easterly, then northeasterly, then southeasterly direction along the third Class D County Road approximately 4.7 miles to a four-way intersection. Proceed through the four-way intersection in a southeasterly direction to a fourth Class D County Road to the northeast. Proceed in a northeasterly direction along the fourth Class D County Road approximately 0.3 miles to a fifth Class D County Road to the southeast. Exit right and proceed in a southeasterly, then southwesterly direction along the fifth Class D County Road approximately 0.1 miles to a service road to the southwest. Continue in a southwesterly, then southerly direction approximately 0.1 miles to the proposed well location.

Total distance from Vernal, Utah to the proposed well location is approximately 50.1 miles in a southerly direction.

**SHEET 17 OF 17** 

Scientific Drilling

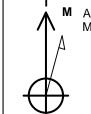
API Well Number: 43047 Fro Fee 2007AB - UTM (feet), NAD27, Zone 12N

Site: NBU 922-34M PAD Well: NBU 922-34J4CS

Wellbore: OH

Design: PLAN #1 PRELIMINARY



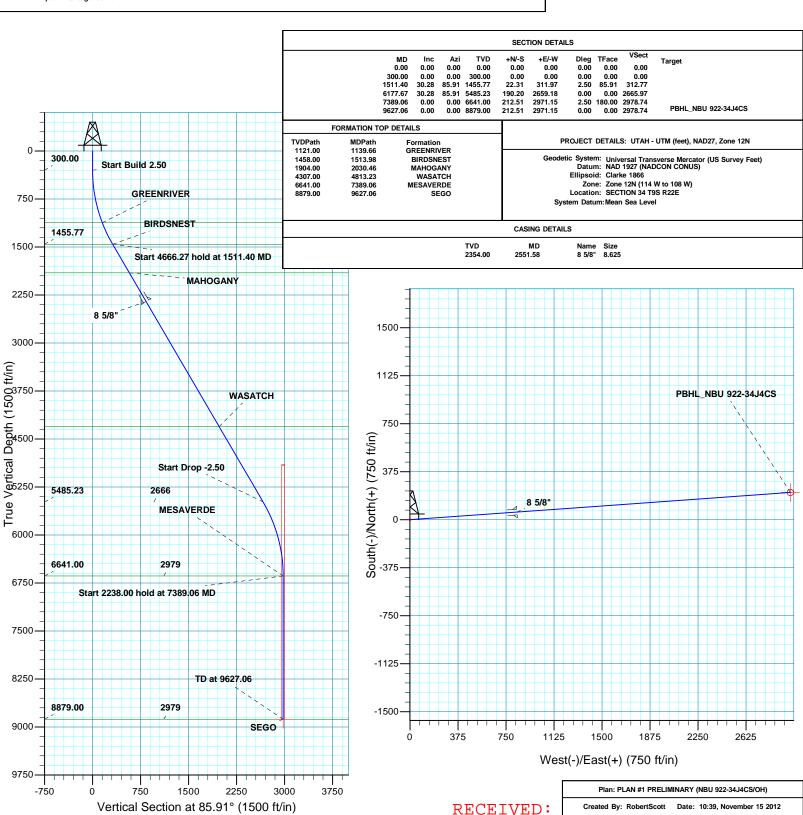


Azimuths to True North Magnetic North: 10.869

Magnetic Field Strength: 52190.8snT Dip Angle: 65.83° Date: 11/15/2012

Model: IGRF2010







# **US ROCKIES REGION PLANNING**

UTAH - UTM (feet), NAD27, Zone 12N NBU 922-34M PAD NBU 922-34J4CS

OH

Plan: PLAN #1 PRELIMINARY

# **Standard Planning Report**

15 November, 2012





# **SDI**Planning Report



Database: EDM5000-RobertS-Local

Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 NBU 922-34M PAD

 Well:
 NBU 922-34J4CS

Wellbore: OH

Site

Design: PLAN #1 PRELIMINARY

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well NBU 922-34J4CS

GL 4980 & KB 4 @ 4984.00ft (ASSUMESD) GL 4980 & KB 4 @ 4984.00ft (ASSUMESD)

True

Minimum Curvature

Project UTAH - UTM (feet), NAD27, Zone 12N

Map System: Universal Transverse Mercator (US Survey Feet)

 Geo Datum:
 NAD 1927 (NADCON CONUS)

 Map Zone:
 Zone 12N (114 W to 108 W)

Mean Sea Level

NBU 922-34M PAD, SECTION 34 T9S R22E

Northing: 14,525,751.56 usft Site Position: Latitude: 39.988603 From: Lat/Long Easting: 2,079,317.57 usft Longitude: -109.433118 **Position Uncertainty:** 0.00 ft Slot Radius: **Grid Convergence:** 1.01 9 13.200 in

System Datum:

Well NBU 922-34J4CS, 1203 FSL 497 FWL

 Well Position
 +N/-S
 0.00 ft
 Northing:
 14,525,751.56 usft
 Latitude:
 39.988603

 +E/-W
 0.00 ft
 Easting:
 2,079,317.57 usft
 Longitude:
 -109.433118

Position Uncertainty 0.00 ft Wellhead Elevation: Ground Level: 4,980.00 ft

Wellbore ОН Magnetics **Model Name** Sample Date Declination Dip Angle Field Strength (nT) (°) (°) IGRF2010 11/15/12 10.86 65.83 52,191

PLAN #1 PRELIMINARY Design Audit Notes: Version: Phase: PLAN Tie On Depth: 0.00 **Vertical Section:** Depth From (TVD) +N/-S +E/-W Direction (ft) (ft) (ft) (°) 0.00 0.00 0.00 85.91

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,511.40	30.28	85.91	1,455.77	22.31	311.97	2.50	2.50	0.00	85.91	
6,177.67	30.28	85.91	5,485.23	190.20	2,659.18	0.00	0.00	0.00	0.00	
7,389.06	0.00	0.00	6,641.00	212.51	2,971.15	2.50	-2.50	0.00	180.00	
9,627.07	0.00	0.00	8,879.00	212.51	2,971.15	0.00	0.00	0.00	0.00 PE	BHL_NBU 922-34J



# SDI Planning Report



EDM5000-RobertS-Local Database:

Company: US ROCKIES REGION PLANNING Project: UTAH - UTM (feet), NAD27, Zone 12N

NBU 922-34M PAD Site: NBU 922-34J4CS

Well: Wellbore: ОН

Design: PLAN #1 PRELIMINARY Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Well NBU 922-34J4CS

GL 4980 & KB 4 @ 4984.00ft (ASSUMESD) GL 4980 & KB 4 @ 4984.00ft (ASSUMESD)

Minimum Curvature

sign:	PLAN #1 PRE	LIMINARI							
nned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00 100.00 200.00 300.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 100.00 200.00 300.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
Start Build 2.									
400.00	2.50	85.91	399.97	0.16	2.18	2.18	2.50	2.50	0.00
500.00 600.00 700.00 800.00	5.00 7.50 10.00 12.50	85.91 85.91 85.91 85.91	499.75 599.14 697.97 796.04	0.62 1.40 2.48 3.88	8.70 19.56 34.73 54.19	8.72 19.61 34.82 54.33	2.50 2.50 2.50 2.50	2.50 2.50 2.50 2.50	0.00 0.00 0.00 0.00
900.00	15.00	85.91	893.17	5.57	77.89	78.09	2.50	2.50	0.00
1,000.00 1,100.00 1,139.66	17.50 20.00 20.99	85.91 85.91 85.91	989.17 1,083.85 1,121.00	7.57 9.86 10.85	105.80 137.86 151.71	106.07 138.21 152.10	2.50 2.50 2.50	2.50 2.50 2.50	0.00 0.00 0.00
GREENRIVE		0E 04	1 177 05	10.45	174.01	174.46	2.50	2.50	0.00
1,200.00 1,300.00	22.50 25.00	85.91 85.91	1,177.05 1,268.57	12.45 15.32	174.01 214.18	174.46 214.73	2.50	2.50	0.00
1,400.00 1,500.00 1,511.40	27.50 30.00 30.28	85.91 85.91 85.91	1,358.25 1,445.92 1,455.77	18.47 21.91 22.31	258.29 306.26 311.97	258.95 307.05 312.77	2.50 2.50 2.50	2.50 2.50 2.50	0.00 0.00 0.00
	hold at 1511.40		1,455.77	22.51	311.97	312.77	2.30	2.50	0.00
1,513.98 BIRDSNEST	30.28	85.91	1,458.00	22.41	313.27	314.07	0.00	0.00	0.00
1,600.00	30.28	85.91	1,532.28	25.50	356.54	357.45	0.00	0.00	0.00
1,700.00 1,800.00 1,900.00 2,000.00 2,030.46	30.28 30.28 30.28 30.28 30.28	85.91 85.91 85.91 85.91 85.91	1,618.64 1,704.99 1,791.34 1,877.69 1,904.00	29.10 32.70 36.30 39.89 40.99	406.84 457.14 507.45 557.75 573.07	407.88 458.31 508.74 559.17 574.54	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
MAHOGANY									
2,100.00 2,200.00 2,300.00 2,400.00 2,500.00	30.28 30.28 30.28 30.28 30.28	85.91 85.91 85.91 85.91	1,964.05 2,050.40 2,136.75 2,223.11 2,309.46	43.49 47.09 50.69 54.28 57.88	608.05 658.35 708.65 758.95 809.26	609.60 660.03 710.46 760.89 811.32	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
2,551.58	30.28	85.91	2,354.00	59.74	835.20	837.34	0.00	0.00	0.00
8 5/8" 2,600.00 2,700.00 2,800.00 2,900.00	30.28 30.28 30.28 30.28	85.91 85.91 85.91 85.91	2,395.81 2,482.16 2,568.52 2,654.87	61.48 65.08 68.68 72.27	859.56 909.86 960.16 1,010.46	861.75 912.18 962.61 1,013.04	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
3,000.00 3,100.00 3,200.00 3,300.00	30.28 30.28 30.28 30.28	85.91 85.91 85.91 85.91	2,741.22 2,827.58 2,913.93 3,000.28	75.87 79.47 83.07 86.66	1,060.76 1,111.06 1,161.37 1,211.67	1,063.47 1,113.90 1,164.33 1,214.76	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
3,400.00 3,500.00	30.28 30.28	85.91 85.91	3,086.63 3,172.99	90.26 93.86	1,261.97 1,312.27	1,265.19 1,315.62	0.00 0.00	0.00	0.00 0.00
3,600.00 3,700.00 3,800.00 3,900.00	30.28 30.28 30.28 30.28	85.91 85.91 85.91 85.91	3,259.34 3,345.69 3,432.05 3,518.40	97.46 101.06 104.65 108.25	1,362.57 1,412.87 1,463.18 1,513.48	1,366.05 1,416.48 1,466.91 1,517.34	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
4,000.00 4,100.00	30.28 30.28	85.91 85.91	3,604.75 3,691.10	111.85 115.45	1,563.78 1,614.08	1,567.77 1,618.20	0.00 0.00	0.00 0.00 0.00	0.00 0.00



# **SDI**Planning Report



Database: EDM5000-RobertS-Local

Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 NBU 922-34M PAD

 Well:
 NBU 922-34J4CS

Wellbore: OH

Design: PLAN #1 PRELIMINARY

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well NBU 922-34J4CS

GL 4980 & KB 4 @ 4984.00ft (ASSUMESD) GL 4980 & KB 4 @ 4984.00ft (ASSUMESD)

True

Minimum Curvature

Design.										
Planned S	Survey									
Fiailileu	oui vey									
N	Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
	4,200.00	30.28	85.91	3,777.46	119.04	1,664.38	1,668.63	0.00	0.00	0.00
		30.28	85.91	3,863.81	122.64				0.00	0.00
	4,300.00					1,714.68	1,719.06	0.00		
	4,400.00	30.28	85.91	3,950.16	126.24	1,764.98	1,769.49	0.00	0.00	0.00
	4,500.00	30.28	85.91	4,036.51	129.84	1,815.29	1,819.92	0.00	0.00	0.00
	4,600.00	30.28	85.91	4,122.87	133.44	1,865.59	1,870.35	0.00	0.00	0.00
	4,700.00	30.28	85.91	4,209.22	137.03	1,915.89	1,920.78	0.00	0.00	0.00
	4,800.00	30.28	85.91	4,295.57	140.63	1,966.19	1,971.21	0.00	0.00	0.00
	4,813.23	30.28	85.91	4,307.00	141.11	1,972.85	1,977.89	0.00	0.00	0.00
1	WASATCH									
	4 000 00	20.20	0E 01	4 204 02	144.00	2.016.40	2 024 64	0.00	0.00	0.00
	4,900.00	30.28	85.91	4,381.93	144.23	2,016.49	2,021.64	0.00	0.00	0.00
	5,000.00	30.28	85.91	4,468.28	147.83	2,066.79	2,072.07	0.00	0.00	0.00
	5,100.00	30.28	85.91	4,554.63	151.42	2,117.10	2,122.50	0.00	0.00	0.00
	5,200.00	30.28	85.91	4,640.98	155.02	2,167.40	2,172.93	0.00	0.00	0.00
	5,300.00	30.28	85.91	4,727.34	158.62	2,217.70	2,223.36	0.00	0.00	0.00
	5,400.00	30.28	85.91	4,813.69	162.22	2,268.00	2,273.79	0.00	0.00	0.00
	5,500.00	30.28	85.91	4,900.04	165.82	2,318.30	2,324.22	0.00	0.00	0.00
	5,600.00	30.28	85.91	4,986.40	169.41	2,368.60	2,374.65	0.00	0.00	0.00
	5,700.00	30.28	85.91	5,072.75	173.01	2,418.90	2,425.08	0.00	0.00	0.00
	5,800.00	30.28	85.91	5,159.10	176.61	2,469.21	2,475.51	0.00	0.00	0.00
	5,900.00	30.28	85.91	5,245.45	180.21	2,519.51	2,525.94	0.00	0.00	0.00
	6,000.00	30.28	85.91	5,331.81	183.81	2,569.81	2,576.37	0.00	0.00	0.00
	6,100.00	30.28	85.91	5,418.16	187.40	2,620.11	2,626.80	0.00	0.00	0.00
	6,177.67	30.28	85.91	5,485.23	190.20	2,659.18	2,665.97	0.00	0.00	0.00
9	Start Drop -2	.50								
	6,200.00	29.73	85.91	5,504.57	190.99	2,670.32	2,677.14	2.50	-2.50	0.00
	0,200.00		00.01	5,504.57	130.33	2,070.02	2,077.14			0.00
	6,300.00	27.23	85.91	5,592.46	194.40	2,717.87	2,724.82	2.50	-2.50	0.00
	6,400.00	24.73	85.91	5,682.35	197.52	2,761.56	2,768.61	2.50	-2.50	0.00
	6,500.00	22.23	85.91	5,774.07	200.36	2,801.29	2,808.45	2.50	-2.50	0.00
	6,600.00	19.73	85.91	5,867.43	202.92	2,837.00	2,844.24	2.50	-2.50	0.00
	6,700.00	17.23	85.91	5,962.27	205.18	2,868.60	2,875.93	2.50	-2.50	0.00
	0,700.00	17.20	00.01	5,302.27	200.10	2,000.00	2,070.00		-2.50	0.00
	6,800.00	14.73	85.91	6,058.40	207.14	2,896.06	2,903.46	2.50	-2.50	0.00
	6,900.00	12.23	85.91	6,155.64	208.80	2,919.30	2,926.76	2.50	-2.50	0.00
	7,000.00	9.73	85.91	6,253.80	210.16	2,938.29	2,945.80	2.50	-2.50	0.00
	7,100.00	7.23	85.91	6,352.70	211.21	2,952.99	2,960.54	2.50	-2.50	0.00
	7,200.00	4.73	85.91	6,452.15	211.96	2,963.38	2,970.95	2.50	-2.50	0.00
	7,300.00	2.23	85.91	6,551.96	212.39	2,969.43	2,977.01	2.50	-2.50	0.00
	7,389.06	0.00	0.00	6,641.00	212.51	2,971.15	2,978.74	2.50	-2.50	-96.46
	Start 2238.00	hold at 7389.06	MD - MESAVE	RDE						
	7,400.00	0.00	0.00	6,651.94	212.51	2,971.15	2,978.74	0.00	0.00	0.00
	7,500.00	0.00	0.00	6,751.94	212.51	2,971.15	2,978.74	0.00	0.00	0.00
	7,600.00	0.00	0.00	6,851.94	212.51	2,971.15	2,978.74	0.00	0.00	0.00
	7,700.00	0.00	0.00	6,951.94	212.51	2,971.15	2,978.74	0.00	0.00	0.00
1	7,800.00	0.00	0.00	7,051.94	212.51	2,971.15	2,978.74	0.00	0.00	0.00
	7,900.00	0.00	0.00	7,151.94	212.51	2,971.15	2,978.74	0.00	0.00	0.00
	8,000.00	0.00	0.00	7,251.94	212.51	2,971.15	2,978.74	0.00	0.00	0.00
	8,100.00	0.00	0.00	7,351.94	212.51	2,971.15	2,978.74	0.00	0.00	0.00
	8,200.00	0.00	0.00	7,451.94	212.51	2,971.15	2,978.74	0.00	0.00	0.00
	8,300.00	0.00	0.00	7,551.94	212.51	2,971.15	2,978.74	0.00	0.00	0.00
	8,400.00	0.00	0.00	7,651.94	212.51	2,971.15	2,978.74	0.00	0.00	0.00
	8,500.00	0.00	0.00	7,751.94	212.51	2,971.15	2,978.74	0.00	0.00	0.00
1	8,600.00	0.00	0.00	7,851.94	212.51	2,971.15	2,978.74	0.00	0.00	0.00
				,						
	8,700.00	0.00	0.00	7,951.94	212.51	2,971.15	2,978.74	0.00	0.00	0.00
	8,800.00	0.00	0.00	8,051.94	212.51	2,971.15	2,978.74	0.00	0.00	0.00
	,									



# **SDI**Planning Report



Database: Company:

Project:

EDM5000-RobertS-Local

US ROCKIES REGION PLANNING UTAH - UTM (feet), NAD27, Zone 12N

NBU 922-34M PAD

 Site:
 NBU 922-34M PAI

 Well:
 NBU 922-34J4CS

Wellbore: OH

Design: PLAN #1 PRELIMINARY

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well NBU 922-34J4CS

GL 4980 & KB 4 @ 4984.00ft (ASSUMESD) GL 4980 & KB 4 @ 4984.00ft (ASSUMESD)

True

Minimum Curvature

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,900.00	0.00	0.00	8,151.94	212.51	2,971.15	2,978.74	0.00	0.00	0.00
9,000.00	0.00	0.00	8,251.94	212.51	2,971.15	2,978.74	0.00	0.00	0.00
9,100.00	0.00	0.00	8,351.94	212.51	2,971.15	2,978.74	0.00	0.00	0.00
9,200.00	0.00	0.00	8,451.94	212.51	2,971.15	2,978.74	0.00	0.00	0.00
9,300.00	0.00	0.00	8,551.94	212.51	2,971.15	2,978.74	0.00	0.00	0.00
9,400.00	0.00	0.00	8,651.94	212.51	2,971.15	2,978.74	0.00	0.00	0.00
9,500.00	0.00	0.00	8,751.94	212.51	2,971.15	2,978.74	0.00	0.00	0.00
9,600.00	0.00	0.00	8,851.94	212.51	2,971.15	2,978.74	0.00	0.00	0.00
9.627.07	0.00	0.00	8.879.00	212.51	2,971.15	2,978.74	0.00	0.00	0.00

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL_NBU 922-34J4C\$ - plan hits target cent - Circle (radius 25.00		0.00	8,879.00	212.51	2,971.15	14,526,016.27	2,082,284.52	39.989186	-109.422513

Casing Points					
	Measured	Vertical		Casing	Hole
	Depth	Depth		Diameter	Diameter
	(ft)	(ft)	Name	(in)	(in)
	2,551.58	2,354.00 8	5/8"	8.625	11.000

Formations							
	Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
	1,139.66	1,121.00	GREENRIVER				
	1,513.98	1,458.00	BIRDSNEST				
	2,030.46	1,904.00	MAHOGANY				
	4,813.23	4,307.00	WASATCH				
	7,389.06	6,641.00	MESAVERDE				
	9,627.07	8,879.00	SEGO				

Plan Annotations				
Measured	Vertical	Local Coor	dinates	
Depth	Depth	+N/-S	+E/-W	
(ft)	(ft)	(ft)	(ft)	Comment
300.00	300.00	0.00	0.00	Start Build 2.50
1,511.40	1,455.77	22.31	311.97	Start 4666.27 hold at 1511.40 MD
6,177.67	5,485.23	190.20	2,659.18	Start Drop -2.50
7,389.06	6,641.00	212.51	2,971.15	Start 2238.00 hold at 7389.06 MD
9,627.07	8,879.00	212.51	2,971.15	TD at 9627.06

Surface Use Plan of Operations 1 of 6

NBU 922-34J4CS / NBU 922-34K4CS / NBU 922-34L2DS NBU 922-34L3DS / NBU 922-34M1BS

# Kerr-McGee Oil & Gas Onshore. L.P.

# **NBU 922-34M PAD**

<u>API #</u>		NBU 922-34J4CS	
	Surface:	1203 FSL / 497 FWL	SWSW
	BHL:	1416 FSL / 1822 FEL	NWSE
<u>API #</u>		NBU 922-34K4CS	
	Surface:	1213 FSL / 499 FWL	SWSW
	BHL:	1597 FSL / 2094 FWL	NESW
<u>API #</u>		NBU 922-34L2DS	
	Surface:	1232 FSL / 505 FWL	SWSW
	BHL:	2021 FSL / 407 FWL	NWSW
<u>API #</u>		NBU 922-34L3DS	
	Surface:	1222 FSL / 502 FWL	SWSW
	BHL:	1587 FSL / 428 FWL	NWSW
<u>API #</u>		NBU 922-34M1BS	
	Surface:	1194 FSL / 493 FWL	SWSW
	BHL:	1054 FSL / 1135 FWL	SWSW

This Surface Use Plan of Operations (SUPO) or 13-point plan provides site-specific information for the above-referenced wells.

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, these wells will be directionally drilled. Refer to Topo Map A for directions to the location and Topo Maps A and B for location of access roads within a 2-mile radius.

An on-site meeting was held on August 16-17, 2012. Present were:

- · Dave Gordon, Tyler Cox, Aaron Roe and Brian Barnett BLM;
- Jessi Brunson USFWS;
- Bill Knapp ICF Consulting;
- · Jacob Dunham 609 Consulting;
- · Mitch Batty Timberline Engineering & Land Surveying, Inc.; and
- · Gina Becker, Charles Chase, Lindsey Frazier, Doyle Holmes, Randy Townley and Casey McKee- Kerr-McGee

# A. Existing Roads:

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

Please refer to Topo B for existing roads.

#### B. New or Reconstructed Access Roads:

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

There is no new or re-routed roads planned for this pad

#### C. Location of Existing Wells:

Please refer to Topo C for exiting wells.

#### D. Location of Existing and/or Proposed Facilities:

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

This pad will expand the existing pad for the NBU 922-34M, which is a producing gas well according to Utah Division of Oil, Gas and Mining (UDOGM) records on of pad November 20, 2012. Gathering (pipeline) infrastructure will be utilized to collect and transport gas and fluids from the wells which are owned and operated by Kerr McGee Oil and Gas Onshore LP (Kerr-McGee).

#### **GAS GATHERING**

Please refer to Exhibit A and Topo D2- Pad and Pipeline Detail.

The total gas gathering pipeline distance from the meter to the tie in point is  $\pm 7,365$ ' and the individual segments are broken up as follows:

### The following segments are "onlease", no ROW needed.

- ±210' (0.04 miles) Section 34 T9S R22E (SW/4 SW/4) On-lease UTU-0149077, BLM surface, New 8" buried gas gathering pipeline from the meter to the edge of the pad. Please refer to Topo D2 Pad and Pipeline Detail.
- ±1,165' (0.2 miles) Section 34 T9S R22E (SW/4 SW/4) On-lease UTU-0149077, BLM surface, New 8" buried gas gathering pipeline from the edge of the pad to tie-in to the proposed buried 10" gas gathering pipeline at the NBU 922-34L Pad intersection . Please refer to Exhibit A, Line 14.
  - ±400' (0.1 miles) Section 34 T9S R22E (NW/4 SW/4) On-lease UTU-0149077, BLM surface, New 10" buried gas gathering pipeline from the edge of the pad to tie-in to the proposed buried 12" gas gathering pipeline at the NBU 922-34F Pad intersection . This pipeline will be used concurrently with the NBU 922-34L Pad. Please refer to Exhibit A, Line 13.
- ±1,395' (0.3 miles) Section 34 T9S R22E (NW/4 SW/4) On-lease UTU-0149077 and UTU-01191-A, BLM surface, New 12" buried gas gathering pipeline from the NBU 922-34F Pad pipeline intersection to tie-in to the proposed buried 16" gas gathering pipeline at the NBU 922-33H Pad intersection. This pipeline will be used concurrently with the NBU 922-34E, NBU 922-34F and NBU 922-34L Pads. Please refer to Exhibit A, Lines 12 and 11.

The following segments require a ROW. Anadarko Uintah Midstream (AUM) will apply for an SF-299/POD under separate cover. Listed below is the gas gathering pipeline distances:

±4,195' (0.8 miles) – Section 33 T9S R22E and Section 3 and 4 T10S R22E – On-lease UTU 01191-A and UTU 01191, BLM surface, New 16" buried gas gathering pipeline from the NBU 922-33H Pad pipeline intersection to the existing 16" buried gas pipeline in 1022-3 at the NBU 1022-3E Pad intersection. Please refer to Exhibit A- Line 10.

## **LIQUID GATHERING**

Please refer to Exhibit B and Topo D2- Pad and Pipeline Detail.

The total liquid gathering pipeline distance from the separator to the tie in point is  $\pm 7,365$ ' and the individual segments are broken up as follows:

#### The following segments are "onlease", no ROW needed.

- ±210' (0.04 miles) Section 34 T9S R22E (SW/4 SW/4) On-lease UTU-0149077, BLM surface, New 6" buried liquid gathering pipeline from the separator to the edge of the pad. Please refer to Topo D2 Pad and Pipeline Detail.
- $\pm 1,165$ ' (0.2 miles) Section 34 T9S R22E (SW/4 SW/4) On-lease UTU-0149077, BLM surface, New 6" buried liquid gathering pipeline from the edge of the pad to tie-in to the proposed buried 6" gas gathering pipeline at the NBU 922-34L Pad intersection . Please refer to Exhibit B, Line 14.
  - $\pm400^{\circ}$  (0.1 miles) Section 34 T9S R22E (NW/4 SW/4) On-lease UTU-0149077, BLM surface, New 6" buried liquid gathering pipeline from the edge of the pad to tie-in to the proposed buried 6" liquid gathering pipeline at the NBU 922-34F Pad intersection . This pipeline will be used concurrently with the NBU 922-34L Pad. Please refer to Exhibit B, Line 13.
- ±1,395' (0.3 miles) Section 34 T9S R22E (NW/4 SW/4) On-lease UTU-0149077 and UTU-01191-A, BLM surface, New 6" buried liquid gathering pipeline from the NBU 922-34F Pad pipeline intersection to tie-in to the proposed buried 6" liquid gathering pipeline at the NBU 922-33H Pad intersection. This pipeline will be used concurrently with the NBU 922-34E, NBU 922-34F and NBU 922-34L Pads. Please refer to Exhibit B, Lines 12 and 11.
- ±4,195' (0.8 miles) Section 33 T9S R22E and Section 3 and 4 T10S R22E On-lease UTU 01191-A and UTU 01191, BLM surface, New 6" buried liquid gathering pipeline from the NBU 922-33H Pad pipeline intersection to the existing 6" buried liquid pipeline in 1022-3 at the NBU 1022-3E Pad intersection. This pipeline will be used concurrently with the NBU 922-33F, NBU 922-33H, NBU 922-34E, NBU 922-34F, NBU 922-34M and NBU 922-33P Pads. Please refer to Exhibit B, Line 10.

### **Pipeline Gathering Construction**

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

NBU 922-34J4CS / NBU 922-34K4CS / NBU 922-34L2DS NBU 922-34L3DS / NBU 922-34M1BS

Surface Use Plan of Operations 4 of 6

# The Anadarko Completions Transportation System (ACTS) information:

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

Please refer to Exhibit C for ACTS Lines

#### Ε. **Location and Types of Water Supply:**

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

Water will be hauled to location over the roads marked on Maps A and B.

#### **Construction Materials:**

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

# **Methods for Handling Waste:**

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

#### **Materials Management**

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

#### H. **Ancillary Facilities:**

No additional ancillary facilities are planned for this location.

# I. Well Site Layout:

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

#### **Plans for Surface Reclamation:**

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

#### **Interim Reclamation**

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

#### **Final Reclamation**

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

### **Measures Common to Interim and Final Reclamation**

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

#### **Weed Control**

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

#### **Monitoring**

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

## K. Surface/Mineral Ownership:

United States of America Bureau of Land Management 170 South 500 East Vernal, UT 84078 (435)781-4400

#### L. Other Information:

# **Cultural and Paleontological Resources**

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

#### **Resource Reports:**

A Class I literature survey was completed on September 21, 2012 by Montgomery Archaeological Consultants, Inc (MOAC). For additional details please refer to report MOAC-12-264.

A paleontological reconnaissance survey was completed on September 20, 2012 by SWCA Environmental Consultants. For additional details please refer to report SWCA-UT12-14314-178.

Biological field survey was completed on August 25, 2012 by Grasslands Consulting, Inc (GCI). For additional details please refer to report GCI-845.

#### **Proposed Action Annual Emissions Tables:**

Please refer to the Appendix in the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

NBU 922-34J4CS / NBU 922-34K4CS / NBU 922-34L2DS NBU 922-34L3DS / NBU 922-34M1BS

Surface Use Plan of Operations 6 of 6

# M. Lessee's or Operators' Representative & Certification:

Gina T. Becker Senior Regulatory Analyst Kerr-McGee Oil & Gas Onshore LP PO Box 173779 Denver, CO 80217-3779 (720) 929-6086 Tommy Thompson General Manager, Drilling Kerr-McGee Oil & Gas Onshore LP PO Box 173779 Denver, CO 80217-3779 (720) 929-6724

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

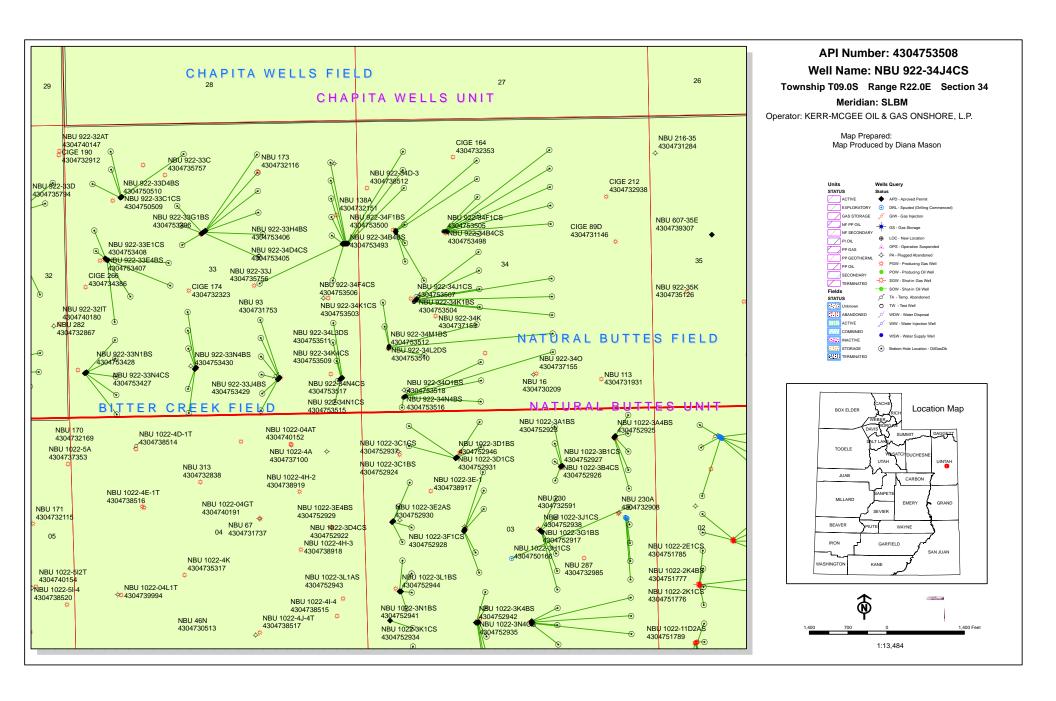
Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Bern Bern

November 20, 2012

Date



# **United States Department of the Interior**

# BUREAU OF LAND MANAGEMENT

Utah State Office
P.O. Box 45155
Salt Lake City, Utah 84145-0155

IN REPLY REFER TO: 3160 (UT-922)

January 15, 2013

Memorandum

To: Assistant Field Office Manager Minerals,

Vernal Field Office

From: Michael Coulthard, Petroleum Engineer

Subject: 2013 Plan of Development Natural Buttes Unit

Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2013 within the Natural Buttes Unit, Uintah County, Utah.

API # WELL NAME LOCATION

(Proposed PZ WASATCH-MESA VERDE)

#### NBU 921-17C PAD

43-047-53476 NBU 921-17C4CS Sec 17 T09S R21E 0629 FNL 2001 FWL BHL Sec 17 T09S R21E 1074 FNL 2155 FWL 43-047-53483 NBU 921-17F1BS Sec 17 T09S R21E 0634 FNL 1993 FWL BHL Sec 17 T09S R21E 1405 FNL 2154 FWL NBU 921-17D PAD 43-047-53477 NBU 921-17E4BS Sec 17 T09S R21E 0953 FNL 0416 FWL BHL Sec 17 T09S R21E 2231 FNL 0825 FWL 43-047-53478 NBU 921-17E1CS Sec 17 T09S R21E 0959 FNL 0424 FWL BHL Sec 17 T09S R21E 1901 FNL 0825 FWL 43-047-53479 NBU 921-17E1BS Sec 17 T09S R21E 0965 FNL 0432 FWL BHL Sec 17 T09S R21E 1570 FNL 0826 FWL 43-047-53480 NBU 921-17D4BS Sec 17 T09S R21E 0982 FNL 0457 FWL BHL Sec 17 T09S R21E 0909 FNL 0827 FWL 43-047-53481 NBU 921-17D1CS Sec 17 T09S R21E 0976 FNL 0449 FWL BHL Sec 17 T09S R21E 0578 FNL 0827 FWL Sec 17 T09S R21E 0970 FNL 0440 FWL 43-047-53482 NBU 921-17D1BS BHL Sec 17 T09S R21E 0148 FNL 0834 FWL NBU 922-34F PAD 43-047-53484 NBU 922-34G1CS Sec 34 T09S R22E 2030 FNL 1588 FWL BHL Sec 34 T09S R22E 1913 FNL 1820 FEL Sec 34 T09S R22E 2029 FNL 1578 FWL 43-047-53485 NBU 922-34G1BS BHL Sec 34 T09S R22E 1580 FNL 1820 FEL Sec 34 T09S R22E 2032 FNL 1598 FWL 43-047-53486 NBU 922-34F4BS BHL Sec 34 T09S R22E 2076 FNL 2151 FWL

RECEIVED: January 15, 2013

API #	API # WELL NAME			LOCATION						
(Proposed PZ	WASA	ATCH-MESA VERDI	歪)							
43-047-53492	NBU	922-34B1CS BHL								
43-047-53493	NBU	922-34B4BS BHL								
43-047-53498	NBU	922-34B4CS BHL								
43-047-53500	NBU	922-34F1BS BHL								
		922-34F1CS BHL	Sec Sec	34 34	T09S T09S	R22E R22E	2026 1744	FNL FNL	1559 2151	FWL FWL
<b>NBU 922-34E</b> 1 43-047-53487	LAD	922-34C4BS BHL	Sec	34	T09S	R22E	1991	FNL	0662	FWL
43-047-53488	NBU	922-34E1CS BHL								
43-047-53489	NBU	922-34E4BS BHL								
43-047-53490	NBU	922-34E4CS BHL								
43-047-53491	NBU	922-34L1AS BHL	Sec Sec	34 34	T09S T09S	R22E R22E	2030 2406	FNL FSL	0668 1156	FWL FWL
<b>NBU 922-34L</b> 1 43-047-53497		922-34L1CS BHL							1012 1021	
43-047-53499	NBU	922-34K4BS BHL								
43-047-53501	NBU	922-34J1BS BHL							0998 1821	
43-047-53502	NBU	922-34J4BS BHL							0970 1822	
43-047-53503	NBU	922-34K1CS BHL							1005 2152	
43-047-53504	NBU	922-34K1BS BHL							1019 2152	
43-047-53506	NBU	922-34F4CS BHL							1026 2151	
		922-34J1CS BHL						-	0991 1821	
<b>NBU 922-34M</b> 1 43-047-53508		922-34J4CS BHL							0497 1822	
43-047-53509	NBU	922-34K4CS BHL							0499 2094	
43-047-53510	NBU	922-34L2DS BHL							0505 0407	
43-047-53511	NBU	922-34L3DS BHL							0502 0428	

Page 2

LOCATION API # WELL NAME (Proposed PZ WASATCH-MESA VERDE) Sec 34 T09S R22E 1194 FSL 0493 FWL 43-047-53512 NBU 922-34M1BS BHL Sec 34 T09S R22E 1054 FSL 1135 FWL NBU 922-34M4 PAD BHL Sec 34 T09S R22E 0415 FSL 0826 FWL 43-047-53514 NBU 922-34M4CS Sec 34 T09S R22E 0295 FSL 0747 FWL BHL Sec 34 T09S R22E 0115 FSL 0716 FWL 43-047-53515 NBU 922-34N1CS Sec 34 T09S R22E 0319 FSL 0779 FWL BHL Sec 34 T09S R22E 0913 FSL 2153 FWL BHL Sec 34 T09S R22E 0581 FSL 2153 FWL 43-047-53517 NBU 922-34N4CS Sec 34 T09S R22E 0301 FSL 0755 FWL BHL Sec 34 T09S R22E 0201 FSL 2140 FWL 43-047-53518 NBU 922-3401BS Sec 34 T09S R22E 0313 FSL 0771 FWL BHL Sec 34 T09S R22E 1083 FSL 1822 FEL NBU 921-17G PAD 43-047-53519 NBU 921-17B4CS Sec 17 T09S R21E 1527 FNL 2258 FEL BHL Sec 17 T09S R21E 1239 FNL 1823 FEL 43-047-53520 NBU 921-17F1CS Sec 17 T09S R21E 1529 FNL 2288 FEL BHL Sec 17 T09S R21E 1736 FNL 2152 FWL 43-047-53521 NBU 921-17F4BS Sec 17 T09S R21E 1528 FNL 2278 FEL BHL Sec 17 T09S R21E 2066 FNL 2151 FWL 43-047-53523 NBU 921-17G4BS Sec 17 T09S R21E 1528 FNL 2268 FEL BHL Sec 17 T09S R21E 2106 FNL 1832 FEL NBU 921-17H PAD 43-047-53522 NBU 921-17A4BS Sec 17 T09S R21E 2074 FNL 0557 FEL BHL Sec 17 T09S R21E 0744 FNL 0496 FEL 43-047-53524 NBU 921-17A4CS Sec 17 T09S R21E 2076 FNL 0547 FEL BHL Sec 17 T09S R21E 1074 FNL 0496 FEL 43-047-53525 NBU 921-17H1BS Sec 17 T09S R21E 2078 FNL 0538 FEL BHL Sec 17 T09S R21E 1405 FNL 0496 FEL

# Michael L. Coulthard Digitally signed by Michael L. Coulthard Disc.-m Michael L. Coulthard, o-Bureau of Land Management, oueBranch of Minerals, email=Michael\_Coulthard@blm.gov, c=US Date: 2013.01.15 14:15:41-0700'

S Sec 17 T09S R21E 2080 FNL 0528 FEL BHL Sec 17 T09S R21E 1736 FNL 0495 FEL

Sec 17 T09S R21E 2082 FNL 0518 FEL BHL Sec 17 T09S R21E 2495 FNL 0489 FEL

bcc: File - Natural Buttes Unit
 Division of Oil Gas and Mining
 Central Files
 Agr. Sec. Chron
 Fluid Chron

MCoulthard:mc:1-15-13

43-047-53526 NBU 921-17H1CS

43-047-53527 NBU 921-17H4CS

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API	Well Name	Surface Location						
43-047-53476	NBU 921-17C4CS	Sec 17	T09S	R21E	0629 FNL 2001 FWL			
43-047-53477	NBU 921-17E4BS	Sec 17	T09S	R21E	0953 FNL 0416 FWL			
43-047-53478	NBU 921-17E1CS	Sec 17	T09S	R21E	0959 FNL 0424 FWL			
43-047-53479	NBU 921-17E1BS	Sec 17	T09S	R21E	0965 FNL 0432 FWL			
43-047-53480	NBU 921-17D4BS	Sec 17	T09S	R21E	0982 FNL 0457 FWL			
43-047-53481	NBU 921-17D1CS	Sec 17	T09S	R21E	0976 FNL 0449 FWL			
43-047-53482	NBU 921-17D1BS	Sec 17	T09S	R21E	0970 FNL 0440 FWL			
43-047-53483	NBU 921-17F1BS	Sec 17	T09S	R21E	0634 FNL 1993 FWL			
43-047-53484	NBU 922-34G1CS	Sec 34	T09S	R22E	2030 FNL 1588 FWL			
43-047-53485	NBU 922-34G1BS	Sec 34	T09S	R22E	2029 FNL 1578 FWL			
43-047-53486	NBU 922-34F4BS	Sec 34	T09S	R22E	2032 FNL 1598 FWL			
43-047-53487	NBU 922-34C4BS	Sec 34	T09S	R22E	1991 FNL 0662 FWL			
43-047-53488	NBU 922-34E1CS	Sec 34	T09S	R22E	2001 FNL 0663 FWL			
43-047-53489	NBU 922-34E4BS	Sec 34	T09S	R22E	2021 FNL 0666 FWL			
43-047-53490	NBU 922-34E4CS	Sec 34	T09S	R22E	2040 FNL 0670 FWL			
43-047-53491	NBU 922-34L1AS	Sec 34	T09S	R22E	2030 FNL 0668 FWL			
43-047-53492	NBU 922-34B1CS	Sec 34	T09S	R22E	2023 FNL 1539 FWL			
43-047-53493	NBU 922-34B4BS	Sec 34	T09S	R22E	2024 FNL 1549 FWL			
43-047-53497	NBU 922-34L1CS	Sec 34	T09S	R22E	2071 FSL 1012 FWL			
43-047-53498	NBU 922-34B4CS	Sec 34	T09S	R22E	2027 FNL 1568 FWL			
43-047-53499	NBU 922-34K4BS	Sec 34	T09S	R22E	2035 FSL 0977 FWL			
43-047-53500	NBU 922-34F1BS	Sec 34	T09S	R22E	2021 FNL 1529 FWL			
43-047-53501	NBU 922-34J1BS	Sec 34	T09S	R22E	2057 FSL 0998 FWL			
43-047-53502	NBU 922-34J4BS	Sec 34	T09S	R22E	2028 FSL 0970 FWL			
43-047-53503	NBU 922-34K1CS	Sec 34	T09S	R22E	2064 FSL 1005 FWL			
43-047-53504	NBU 922-34K1BS	Sec 34	T09S	R22E	2078 FSL 1019 FWL			
43-047-53505	NBU 922-34F1CS	Sec 34	T09S	R22E	2026 FNL 1559 FWL			
43-047-53506	NBU 922-34F4CS	Sec 34	T09S	R22E	2085 FSL 1026 FWL			
43-047-53507	NBU 922-34J1CS	Sec 34	T09S	R22E	2050 FSL 0991 FWL			
43-047-53508	NBU 922-34J4CS	Sec 34	T09S	R22E	1203 FSL 0497 FWL			
43-047-53509	NBU 922-34K4CS	Sec 34	T09S	R22E	1213 FSL 0499 FWL			
43-047-53510	NBU 922-34L2DS	Sec 34	T09S	R22E	1232 FSL 0505 FWL			
43-047-53511	NBU 922-34L3DS	Sec 34	T09S	R22E	1222 FSL 0502 FWL			
43-047-53512	NBU 922-34M1BS	Sec 34	TO9S	R22E	1194 FSL 0493 FWL			
43-047-53513	NBU 922-34M4BS	Sec 34	T09S	R22E	0325 FSL 0787 FWL 0295 FSL 0747 FWL			
43-047-53514	NBU 922-34M4CS NBU 922-34N1CS	Sec 34	T09S T09S	R22E R22E	0319 FSL 0779 FWL			
43-047-53516	NBU 922-34N1CS	Sec 34	T09S	R22E	0307 FSL 07/9 FWL			
43-047-53517	NBU 922-34N4CS	Sec 34	T09S	R22E	0301 FSL 0755 FWL			
43-047-53518	NBU 922-34N4C3	Sec 34	T09S	R22E	0313 FSL 0771 FWL			
43-047-53519	NBU 921-17B4CS	Sec 34	T09S	R21E	1527 FNL 2258 FEL			
43-047-53520	NBU 921-17F1CS	Sec 17	T09S	R21E	1529 FNL 2288 FEL			
43-047-53521	NBU 921-17F4BS	Sec 17	T09S	R21E	1528 FNL 2278 FEL			
43-047-53522	NBU 921-17A4BS	Sec 17	T09S	R21E	2074 FNL 0557 FEL			
43-047-53523	NBU 921-17G4BS	Sec 17	T09S	R21E	1528 FNL 2268 FEL			
43-047-53524	NBU 921-17A4CS	Sec 17	T09S	R21E	2076 FNL 0547 FEL			
10 017 00024	14DO 251-1144C3	JCC 1/	1033	INCIL	ZU/UINLUJ4/ILL			

1 of 2 1/15/2013

API Well Number: 43047535080000

API	Well Name	Surface Location			
43-047-53525	NBU 921-17H1BS	Sec 17	T09S	R21E	2078 FNL 0538 FEL
43-047-53526	NBU 921-17H1CS	Sec 17	T09S	R21E	2080 FNL 0528 FEL
43-047-53527	NBU 921-17H4CS	Sec 17	T09S	R21E	2082 FNL 0518 FEL

2 of 2 1/15/2013

API Well Number: 43047535080000

# **WORKSHEET** APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 1/4/2013	<b>API NO. ASSIGNED</b> : 43047535080000

WELL NAME: NBU 922-34J4CS

OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995) PHONE NUMBER: 720 929-6086

**CONTACT:** Gina Becker

PROPOSED LOCATION: SWSW 34 090S 220E Permit Tech Review:

> SURFACE: 1203 FSL 0497 FWL Engineering Review:

> **BOTTOM:** 1416 FSL 1822 FEL Geology Review:

**COUNTY: UINTAH** 

**LATITUDE**: 39.98847 LONGITUDE: -109.43374 UTM SURF EASTINGS: 633721.00 NORTHINGS: 4427652.00

FIELD NAME: NATURAL BUTTES LEASE TYPE: 1 - Federal

LEASE NUMBER: UTU-0149077 PROPOSED PRODUCING FORMATION(S): WASATCH-MESA VERDE

SURFACE OWNER: 1 - Federal **COALBED METHANE: NO** 

#### **RECEIVED AND/OR REVIEWED: LOCATION AND SITING:**

✓ PLAT R649-2-3.

Unit: NATURAL BUTTES Bond: FEDERAL - WYB000291

**Potash** R649-3-2. General

Oil Shale 190-5

Oil Shale 190-3 R649-3-3. Exception

**Drilling Unit** Oil Shale 190-13

Board Cause No: Cause 173-14 Water Permit: 43-8496

Effective Date: 12/2/1999 **RDCC Review:** 

Siting: Suspends General Siting Fee Surface Agreement

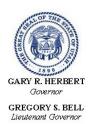
✓ Intent to Commingle R649-3-11. Directional Drill

**Commingling Approved** 

Comments: Presite Completed

Stipulations:

3 - Commingling - ddoucet 4 - Federal Approval - dmason 15 - Directional - dmason 17 - Oil Shale 190-5(b) - dmason



# State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

# Permit To Drill

\*\*\*\*\*\*

Well Name: NBU 922-34J4CS
API Well Number: 43047535080000
Lease Number: UTU-0149077
Surface Owner: FEDERAL

Approval Date: 1/30/2013

### Issued to:

KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

## Authority:

Pursuant to Utah Code Ann. 40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

### **Duration:**

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

#### **Commingle:**

In accordance with Board Cause No. 173-14, commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

## General:

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

## **Conditions of Approval:**

State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil

shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

# **Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

• Within 24 hours following the spudding of the well - contact Carol Daniels at 801-538-5284

(please leave a voicemail message if not available)

submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website

at http://oilgas.ogm.utah.gov

# Reporting Requirements:

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) due within 5 days of spudding the well
- Monthly Status Report (Form 9) due by 5th day of the following calendar month
  - Requests to Change Plans (Form 9) due prior to implementation
  - Written Notice of Emergency Changes (Form 9) due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) due prior to implementation
  - Report of Water Encountered (Form 7) due within 30 days after completion
- Well Completion Report (Form 8) due within 30 days after completion or plugging

Approved By:

For John Rogers Associate Director, Oil & Gas

# RECEIVED

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

DEC 0 5 2012

FORM APPROVED OMB No. 1004-0136 Expires July 31, 2010

# APPLICATION FOR PERMIT TO DRILL OR REEN MENT

Lease Serial No. UTU0149077 6. If Indian, Allottee or Tribe Name

1a. Type of Work: DRILL REENTER		
		7. If Unit or CA Agreement, Name and No. 891008900A
1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Ot  2. Name of Operator Contact:	her Single Zone Multiple Zone GINA T BECKER	8. Lease Name and Well No. NBU 922-34J4CS
KERR MCGEE OIL & GAS ONSHOR Mail: GINA.B	ECKER@ANADARKO.COM	9. API Well No. 4304753508
3a. Address 1368 SOUTH 1200 EAST VERNAL, UT 84078	3b. Phone No. (include area code) Ph: 720-929-6086 Fx: 720-929-7086	10. Field and Pool, or Exploratory NATURAL BUTTES
4. Location of Well (Report location clearly and in accord	ance with any State requirements.*)	11. Sec., T., R., M., or Blk. and Survey or Area
	39.988568 N Lat, 109.433802 W Lon	Sec 34 T9S R22E Mer SLB SME: BLM
At proposed prod. zone NWSE 1416FSL 1822FEL		52. 52
<ol> <li>Distance in miles and direction from nearest town or post APPROXIMATELY 50 MILES SOUTHEAST OF</li> </ol>	office* VERNAL, UTAH	12. County or Parish 13. State UINTAH UT
<ol> <li>Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)</li> <li>1416</li> </ol>	16. No. of Acres in Lease 600.00	17. Spacing Unit dedicated to this well
18. Distance from proposed location to nearest well, drilling,	19. Proposed Depth	20. BLM/BIA Bond No. on file
completed, applied for, on this lease, ft. 783	9627 MD 8879 TVD	WYB000291
21. Elevations (Show whether DF, KB, RT, GL, etc. 4980 GL	22. Approximate date work will start 07/01/2012	23. Estimated duration 60-90 DAYS
	24. Attachments	
The following, completed in accordance with the requirements o	f Onshore Oil and Gas Order No. 1, shall be attached to the	his form:
Well plat certified by a registered surveyor.     A Drilling Plan.     A Surface Use Plan (if the location is on National Forcet Surf	4. Bond to cover the operation	ns unless covered by an existing bond on file (see

- SUPO shall be filed with the appropriate Forest Service Office).
- Operator certification
- Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature (Electronic Submission)	Name (Printed/Typed) GINA T BECKER Ph: 720-929-6086	Date 12/04/2012
Title REGULATORY ANALYST II Approved by (Signature)	I Nama (Brintad/Tyrad)	
Title James L.	Name (Printed/Typed)  Jerry Kenczka	MAY 2 8 2013

Lands & Mineral Resources

VEKNAL FIELD OFFICE

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct

operations thereon. Conditions of approval, if any, are attached. CONDITIONS OF APPROVAL ATTACHED

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction. RECEIVED

Additional Operator Remarks (see next page)

MAY 3 1 2013

Electronic Submission #161674 verified by the BLM Well Information System
For KERR MCGEE OIL & GAS ONSHORE L, sent to the Vernal
DIV. OF OIL, GAS & MINING Committed to AFMSS for processing by JOHNETTA MAGEE on 12/14/2012 (13JM0164AE)

NOTICE OF APPROVAL

\*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\*

une shilis

25. Signature



# UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT VERNAL FIELD OFFICE

170 South 500 East VERNAL, UT 84078

(435) 781-4400



# **CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL**

Company: Well No: API No: **KERR MCGEE OIL & GAS ONSHORE** 

NBU 922-34J4CS

43-047-53508

Location: Lease No:

Agreement:

SWSW, Sec. 34, T9S, R22E

UTU-0149077

**OFFICE NUMBER:** 

(435) 781-4400

**OFFICE FAX NUMBER:** 

(435) 781-3420

# A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR FIELD REPRESENTATIVE TO INSURE COMPLIANCE

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. This permit is approved for a two (2) year period, or until lease expiration, whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.

# **NOTIFICATION REQUIREMENTS**

Location Construction (Notify Environmental Scientist)	-	Forty-Eight (48) hours prior to construction of location and access roads.
Location Completion (Notify Environmental Scientist)	-	Prior to moving on the drilling rig.
Spud Notice (Notify Petroleum Engineer)	-	Twenty-Four (24) hours prior to spudding the well.
Casing String & Cementing (Notify Supv. Petroleum Tech.)	-	Twenty-Four (24) hours prior to running casing and cementing all casing strings to:  blm_ut_vn_opreport@blm.gov
BOP & Related Equipment Tests (Notify Supv. Petroleum Tech.)	-	Twenty-Four (24) hours prior to initiating pressure tests.
First Production Notice (Notify Petroleum Engineer)	-	Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.

# SURFACE USE PROGRAM CONDITIONS OF APPROVAL (COAs)

- All new and replacement internal combustion gas field engines of less than or equal to 300 designrated horsepower must not emit more than 2 gms of NO<sub>x</sub> per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.
- All and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gms of NO<sub>x</sub> per horsepower-hour.
- If there is an active Gilsonite mining operation within 2 miles of the well location, operator shall notify the Gilsonite operator at least 48 hours prior to any blasting during construction.
- If paleontological materials are uncovered during construction, the operator is to immediately stop
  work and contact the Authorized Officer (AO). A determination will be made by the AO as to what
  mitigation may be necessary for the discovered paleontologic material before construction can
  continue.
- Mitigation measures can be found in Appendix B, Table B-2, of the GNB ROD (BLM 2012b) under the following sections of the table:
  - o Air Quality
  - o Soils
  - o Vegetation: Sclerocactus wetlandicus
  - o Wildlife: Colorado River Fish
- All vehicles and equipment shall be cleaned either through power-washing, or other approved method, if the vehicles or equipment were previously operated outside the Uinta Basin, to prevent weed seed introduction.
- All disturbance areas shall be monitored for noxious weeds annually, for a minimum of three growing seasons following completion of project or until desirable vegetation is established
- Noxious and invasive weeds will be controlled throughout the area of project disturbance.
- Noxious weeds will be inventoried and reported to BLM in the annual reclamation report. Where an
  integrated pest management program is applicable, coordination has been undertaken with the
  state and local management program (if existing). A copy of the pest management plan will be
  submitted for each project.
- A pesticide use permit (PUP) will be obtained for the project, if applicable.

If partial or complete removal of a fence cannot be avoided, the fence would be braced and tied off per the BLM guidance. Where the fence is crossed by a road, the fence would be braced and a cattleguard and gate installed per BLM guidance.

Page 3 of 6 Well: NBU 922-34J4CS 5/17/2013

# DOWNHOLE PROGRAM CONDITIONS OF APPROVAL (COAs)

## SITE SPECIFIC DOWNHOLE COAs:

- Cement for the 4.5 inch casing shall be brought up to a minimum of 200 feet above the surface casing shoe.
- A CBL shall be run from TD to TOC in the Production Casing.
- Variances shall be granted as requested in Section 9 of the Drilling Program of the SOP.
- Gamma Ray Log shall be run from TD to the Surface.

All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to. The following items are emphasized:

## DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be performed by a test pump with a chart recorder and <u>NOT</u> by the rig pumps. Test shall be reported in the driller's log.
- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.
- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- Cement baskets shall not be run on surface casing.
- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal Field Office.

Page 4 of 6 Well: NBU 922-34J4CS 5/17/2013

- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.
- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.
- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM,
   Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.
- A cement bond log (CBL) will be run from the production casing shoe to the top of cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.
- Please submit an electronic copy of all other logs run on this well by CD (compact disc).
   This submission will supersede the requirement for submittal of paper logs to the BLM.
- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

Page 5 of 6 Well: NBU 922-34J4CS 5/17/2013

## **OPERATING REQUIREMENT REMINDERS:**

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.
- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at <u>www.ONRR.gov</u>.
- Should the well be successfully completed for production, the BLM Vernal Field office must be
  notified when it is placed in a producing status. Such notification will be by written communication
  and must be received in this office by not later than the fifth business day following the date on
  which the well is placed on production. The notification shall provide, as a minimum, the following
  informational items:
  - o Operator name, address, and telephone number.
  - Well name and number.
  - Well location (¼¼, Sec., Twn, Rng, and P.M.).
  - Date well was placed in a producing status (date of first production for which royalty will be paid).
  - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
  - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
  - Unit agreement and/or participating area name and number, if applicable.
  - o Communitization agreement number, if applicable.
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.
- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs, core data, drill stem test data, and results of production tests if performed. Samples (cuttings, fluid,

Page 6 of 6 Well: NBU 922-34J4CS 5/17/2013

and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.
- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field Office Petroleum Engineers will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports shall be submitted to the BLM Vernal Field Office. All measurement facilities will conform to the API standards for liquid hydrocarbons and the AGA standards for natural gas measurement. All measurement points shall be identified as the point of sale or allocation for royalty purposes.
- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to
  the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs first.
  All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All
  product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in
  accordance with Onshore Oil & Gas Order No. 3.
- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering
  lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a
  suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be
  obtained orally, but such approval does not waive the written report requirement.
- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover
  equipment shall be removed from a well to be placed in a suspended status without prior approval
  of the BLM Vernal Field Office. If operations are to be suspended for more than 30 days, prior
  approval of the BLM Vernal Field Office shall be obtained and notification given before resumption
  of operations.
- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.
- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.

Sundry Number: 44942 API Well Number: 43047535080000

	STATE OF UTAH		FORM 9		
	DEPARTMENT OF NATURAL RESOURCE DIVISION OF OIL, GAS, AND MINI		5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-0149077		
SUNDRY NOTICES AND REPORTS ON WELLS			6. IF INDIAN, ALLOTTEE OR TRIBE NAME:		
	oposals to drill new wells, significantly d reenter plugged wells, or to drill horizon n for such proposals.		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES		
		8. WELL NAME and NUMBER: NBU 922-34J4CS			
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	NSHORE, L.P.		9. API NUMBER: 43047535080000		
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18t	h Street, Suite 600, Denver, CO, 80217	<b>PHONE NUMBER:</b> 3779 720 929-6	9. FIELD and POOL or WILDCAT: 5NATURAL BUTTES		
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1203 FSL 0497 FWL			COUNTY: UINTAH		
QTR/QTR, SECTION, TOWNS	HIP, RANGE, MERIDIAN: 34 Township: 09.0S Range: 22.0E Meridi	an: S	STATE: UTAH		
11. CHEC	K APPROPRIATE BOXES TO INDICATE	E NATURE OF NOTICE, REPOR	RT, OR OTHER DATA		
TYPE OF SUBMISSION		TYPE OF ACTION			
	ACIDIZE	ALTER CASING	CASING REPAIR		
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME		
1/30/2014	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE		
SUBSEQUENT REPORT	DEEPEN [	FRACTURE TREAT	☐ NEW CONSTRUCTION		
Date of Work Completion:	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK		
	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION		
SPUD REPORT  Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON		
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL		
DRILLING REPORT	WATER SHUTOFF	SI TA STATUS EXTENSION	✓ APD EXTENSION		
Report Date:	WILDCAT WELL DETERMINATION	OTHER	OTHER:		
42 DESCRIPE PROPOSED OF	COMPLETED OPERATIONS. Clearly show al		<u>,                                    </u>		
Kerr-McGee Oil & G an extension to this	as Onshore, L. P. (Kerr-McGe APD for the maximum time a with any questions and/or co	e) respectfully requests llowed. Please contact	Approved by the Utah Division of Oil, Gas and Mining		
			Bv: Document 18, 2013		
			7		
NAME (PLEASE PRINT) Kay E. Kelly	<b>PHONE NUMBE</b> 720 929 6582	R TITLE Regulatory Analyst			
SIGNATURE N/A		<b>DATE</b> 11/14/2013			

Sundry Number: 44942 API Well Number: 43047535080000



## The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

**Electronic Permitting System - Sundry Notices** 

## Request for Permit Extension Validation Well Number 43047535080000

API: 43047535080000 Well Name: NBU 922-34J4CS

Location: 1203 FSL 0497 FWL QTR SWSW SEC 34 TWNP 090S RNG 220E MER S

Company Permit Issued to: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Date Original Permit Issued: 1/30/2013

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

• If located on private land, has the ownership changed, if so, has the surface agreement been updated?  Yes  No
<ul> <li>Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location? Yes No</li> </ul>
• Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well?  Yes No
• Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location?  Yes No
• Has the approved source of water for drilling changed?   Yes  No
<ul> <li>Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation?</li> <li>Yes</li> <li>No</li> </ul>
• Is bonding still in place, which covers this proposed well?   Yes   No
nature: Kay E. Kelly Date: 11/14/2013

Sig

Title: Regulatory Analyst Representing: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Sundry Number: 45678 API Well Number: 43047535080000

	STATE OF UTAH		FORM 9
ı	DEPARTMENT OF NATURAL RESOURCE DIVISION OF OIL, GAS, AND MIN		5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-0149077
SUNDR	RY NOTICES AND REPORTS	ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
	posals to drill new wells, significantly reenter plugged wells, or to drill horizo n for such proposals.		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 922-34J4CS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.		9. API NUMBER: 43047535080000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	h Street, Suite 600, Denver, CO, 8021	<b>PHONE NUMBER:</b> 7 3779 720 929-0	9. FIELD and POOL or WILDCAT: 5NATERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1203 FSL 0497 FWL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH	HIP, RANGE, MERIDIAN: 34 Township: 09.0S Range: 22.0E Meri	dian: S	STATE: UTAH
11. CHECI	K APPROPRIATE BOXES TO INDICA	TE NATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	NEW CONSTRUCTION
	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK
✓ SPUD REPORT	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
Date of Spud: 12/5/2013	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
12/3/2013	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
DRILLING REPORT Report Date:	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION
Report Date.		SITA STATUS EXTENSION	
	WILDCAT WELL DETERMINATION	OTHER	OTHER:
Spud well 12/05/20 <sup>2</sup> X .250 wall co	COMPLETED OPERATIONS. Clearly show 13 @ 12:00. Drill 24" condu nductor pipe, cement with 8 s spud date and surface cas	ictor hole to 40', run 14" 1 sacks ready mix.	
NAME (PLEASE PRINT) Doreen Green	PHONE NUMB 435 781-9758	BER TITLE Regulatory Analyst II	
SIGNATURE		DATE	
N/A		12/6/2013	

Sundry Number: 49569 API Well Number: 43047535080000

	STATE OF UTAH		FORM 9
DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING			5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-0149077
SUNDRY NOTICES AND REPORTS ON WELLS			6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
CUITENI DONOM-NOIE GEDIN TEENIEL DINGGEG WENS OLIO ONI NONZONIALIAIETAIS USE APPLICATION I		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES	
			8. WELL NAME and NUMBER: NBU 922-34J4CS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.		9. API NUMBER: 43047535080000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	n Street, Suite 600, Denver, CO, 80217	<b>PHONE NUMBER:</b> 3779 720 929-6	9. FIELD and POOL or WILDCAT: 1NATERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1203 FSL 0497 FWL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH Qtr/Qtr: SWSW Section: 3	IIP, RANGE, MERIDIAN: 34 Township: 09.0S Range: 22.0E Meridi	an: S	STATE: UTAH
11. CHECK	K APPROPRIATE BOXES TO INDICATI	E NATURE OF NOTICE, REPOF	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
NOTICE OF INTENT Approximate date work will start:	CHANGE WELL STATUS	ALTER CASING  CHANGE TUBING  COMMINGLE PRODUCING FORMATIONS	CASING REPAIR CHANGE WELL NAME CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN [	FRACTURE TREAT  PLUG AND ABANDON	NEW CONSTRUCTION  PLUG BACK
SPUD REPORT Date of Spud:	PRODUCTION START OR RESUME REPERFORATE CURRENT FORMATION	RECLAMATION OF WELL SITE  SIDETRACK TO REPAIR WELL	RECOMPLETE DIFFERENT FORMATION  TEMPORARY ABANDON
✓ DRILLING REPORT Report Date:	TUBING REPAIR  WATER SHUTOFF	VENT OR FLARE  SI TA STATUS EXTENSION	WATER DISPOSAL  APD EXTENSION
4/2/2014	WILDCAT WELL DETERMINATION	OTHER	OTHER:
	completed operations. Clearly show all ed to 2,618 ft. in Quarter 1 c		Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY April 02, 2014
NAME (PLEASE PRINT) Teena Paulo	<b>PHONE NUMBE</b> 720 929-6236	R TITLE Staff Regulatory Specialist	
SIGNATURE N/A		<b>DATE</b> 4/2/2014	

RECEIVED: Apr. 02, 2014

Sundry Number: 52433 API Well Number: 43047535080000

	STATE OF UTAH		FORM 9
DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING			5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-0149077
SUNDRY NOTICES AND REPORTS ON WELLS			6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
	posals to drill new wells, significantly dee reenter plugged wells, or to drill horizontal n for such proposals.		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL			8. WELL NAME and NUMBER: NBU 922-34J4CS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.		9. API NUMBER: 43047535080000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	PHI h Street, Suite 600, Denver, CO, 80217 37	<b>ONE NUMBER:</b> 79 720 929-6	9. FIELD and POOL or WILDCAT: 1NATERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1203 FSL 0497 FWL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH	HIP, RANGE, MERIDIAN: 34 Township: 09.0S Range: 22.0E Meridian:	: S	STATE: UTAH
11. CHECK	K APPROPRIATE BOXES TO INDICATE N	NATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	ALTER CASING	CASING REPAIR
☐ NOTICE OF INTENT	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
Approximate date work will start:	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT			
Date of Work Completion:	L DEEPEN L	FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	PLUG AND ABANDON	L PLUG BACK
SPUD REPORT Date of Spud:	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
· /	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
DRILLING REPORT Report Date:	□ WATER SHUTOFF □	SI TA STATUS EXTENSION	APD EXTENSION
6/24/2014	WILDCAT WELL DETERMINATION	OTHER	OTHER:
12. DESCRIBE PROPOSED OR	COMPLETED OPERATIONS. Clearly show all pe	ertinent details including dates, d	lepths, volumes, etc.
	ed to 9,585 ft. in Quarter 2 of 2		
			Accepted by the Utah Division of
			Oil, Gas and Mining
			FOR RECORD ONLY
NAME (DI SACE PRINT)	BUONE	TITLE	
NAME (PLEASE PRINT) Ila Beale	<b>PHONE NUMBER</b> 720 929-6408	TITLE Staff Reg. Specialist	
SIGNATURE		DATE	
N/A		6/24/2014	

RECEIVED: Jun. 24, 2014

Sundry Number: 55387 API Well Number: 43047535080000

	STATE OF UTAH				FORM 9
ı	DEPARTMENT OF NATURAL RESOURCE DIVISION OF OIL, GAS, AND MIN				DESIGNATION AND SERIAL NUMBER: 149077
SUNDRY NOTICES AND REPORTS ON WELLS			6. IF IND	IAN, ALLOTTEE OR TRIBE NAME:	
Do not use this form for pro current bottom-hole depth, I FOR PERMIT TO DRILL form	posals to drill new wells, significantly reenter plugged wells, or to drill horizon for such proposals.	deepe ontal la	en existing wells below sterals. Use APPLICATION		r CA AGREEMENT NAME: AL BUTTES
1. TYPE OF WELL Gas Well				1 -	NAME and NUMBER: 22-34J4CS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.			<b>9. API NU</b> 430475	JMBER: 535080000
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th	n Street, Suite 600, Denver, CO, 8021		NE NUMBER: 720 929-6		and POOL or WILDCAT: AL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1203 FSL 0497 FWL				COUNTY	
QTR/QTR, SECTION, TOWNSH	HP, RANGE, MERIDIAN: 34 Township: 09.0S Range: 22.0E Meri	idian: S	3	STATE: UTAH	
11. CHECI	K APPROPRIATE BOXES TO INDICA	TE NA	TURE OF NOTICE, REPOR	T, OR O	THER DATA
TYPE OF SUBMISSION			TYPE OF ACTION		
	ACIDIZE	☐ AL	TER CASING		CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	Сн	HANGE TUBING		CHANGE WELL NAME
Approximate date work will start.	CHANGE WELL STATUS	□ co	DMMINGLE PRODUCING FORMATIONS		CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	☐ FR	ACTURE TREAT		NEW CONSTRUCTION
	OPERATOR CHANGE	П	.UG AND ABANDON	П	PLUG BACK
SPUD REPORT	PRODUCTION START OR RESUME		ECLAMATION OF WELL SITE		RECOMPLETE DIFFERENT FORMATION
Date of Spud:	REPERFORATE CURRENT FORMATION	SIF	DETRACK TO REPAIR WELL		TEMPORARY ABANDON
	TUBING REPAIR		ENT OR FLARE		WATER DISPOSAL
✓ DRILLING REPORT	WATER SHUTOFF		TA STATUS EXTENSION		APD EXTENSION
Report Date: 9/11/2014					
	WILDCAT WELL DETERMINATION		THER	OTHE	!
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  Started completing the well. Well TD at 9,585 ft. Thank you.  Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY September 12, 2014  NAME (PLEASE PRINT)  PHONE NUMBER TITLE					
NAME (PLEASE PRINT) Kay E. Kelly	<b>PHONE NUMB</b> 720 929 6582		TITLE Regulatory Analyst		
SIGNATURE N/A			<b>DATE</b> 9/11/2014		

Sundry Number: 59242 API Well Number: 43047535080000

	STATE OF UTAH		FORM 9
DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING			5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-0149077
SUNDRY NOTICES AND REPORTS ON WELLS			6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
i curreni politori-nole debin, reenier biudded wells, or io drill notizonial lalerais. Use APPLICATION II		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES	
			8. WELL NAME and NUMBER: NBU 922-34J4CS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	SHORE, L.P.		9. API NUMBER: 43047535080000
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th	h Street, Suite 600, Denver, CO, 8021	<b>PHONE NUMBER:</b> 7 3779 720 929-	9. FIELD and POOL or WILDCAT: 6 INATERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1203 FSL 0497 FWL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH	<b>HIP, RANGE, MERIDIAN:</b> 34 Township: 09.0S Range: 22.0E Meri	idian: S	STATE: UTAH
11. CHECI	K APPROPRIATE BOXES TO INDICA	TE NATURE OF NOTICE, REPOI	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	ALTER CASING	CASING REPAIR
NOTICE OF INTENT	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
Approximate date work will start:	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	NEW CONSTRUCTION
12/22/2014		PLUG AND ABANDON	PLUG BACK
	OPERATOR CHANGE		
SPUD REPORT Date of Spud:	▼ PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	LI TEMPORARY ABANDON
DRILLING REPORT	L TUBING REPAIR	☐ VENT OR FLARE	WATER DISPOSAL
Report Date:	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION
	WILDCAT WELL DETERMINATION	OTHER	OTHER:
The NBU 922-34J	COMPLETED OPERATIONS. Clearly show 4CS was placed on product ompletion. Producing from th	tion 12/22/2014 after a	Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY December 23, 2014
NAME (PLEASE PRINT) Doreen Green	PHONE NUMB 435 781-9758	BER TITLE Regulatory Analyst II	
SIGNATURE		DATE	
N/A		12/23/2014	

Sundry Number: 59692 API Well Number: 43047535080000

Form 3160-4 (August 2007)			DEPAR BUREAU	TMENT J OF L	OF AND	MANA	GEMEN	IΤ			_			OM Expi	B No. 1 res: July	PROVED 004-0137 y 31, 2010
	WELL (	COMPL	ETION C	R RE	COM	PLET	ION RI	EPOR	RT AN	D LO	3			ease Serial l JTU014907		
1a. Type of	f Well 🔲	Oil Well	<b>⊠</b> Gas \	Well	☐ Dr	у 🗖	Other						6. If	Indian, All	ottee o	r Tribe Name
b. Type of	f Completion		lew Well er	☐ Worl	C Over		Deepen	<b>□</b> P	lug Bac	k 🗖	Diff. I	Resvr.		nit or CA A		ent Name and No.
2. Name of KERR-	Operator MCGEE OIL	AND G	AS ONSHÆ	<b>AM</b> Fail: Do			DOREEI							ease Name :		
3. Address		173779					3a.	Phone		clude are	a code	)		PI Well No		43-047-53508
4. Location	of Well (Re			id in acco	rdance	e with Fe							10. I	Field and Po	ool, or	Exploratory
At surfa	ice SWSV	/ 1203FS	SL 497FWL	39.9885	68 N	Lat, 109	.433802	2 W Lor	n					Sec. T. R		ES Block and Survey
At top p	orod interval i	eported b	elow NWS	SE 1428	FSL 1	1829FEI	_						О	r Area Se	c 34 T	9S R22E Mer SLB
At total	depth NW	SE 1411	FSL 1819FI	EL										County or P JINTAH	arish	13. State UT
At total depth       NWSE 1411FSL 1819FEL         14. Date Spudded 12/05/2013       15. Date T.D. Reached 05/01/2014       16. Date Completed □ D & A											17. I		DF, KI 39 KB	B, RT, GL)*		
18. Total D	epth:	MD TVD	9585 8859		19. P	lug Back	T.D.:	MD TVI		9524 8797		20. De	pth Bri	dge Plug Se		MD TVD
21. Type E RADIA	lectric & Oth L CEMENT			un (Subm / CCL T	nit cop EMP	y of eacl	1)	1,12			Was	well core DST runs ctional Su	•	<b>⋈</b> No	☐ Yes	s (Submit analysis) s (Submit analysis) s (Submit analysis)
23. Casing an	nd Liner Reco	ord (Repo	ort all strings	set in we	ell)											
Hole Size	Size/G		Wt. (#/ft.)	Top (MD	)	Bottom (MD)	I	Cemen Depth		No. of Sk pe of Ce	ement	Slurry (BE		Cement 7	Гор*	Amount Pulled
24.000 11.000		000 STL 625 J-55	36.7 28.0		0 18	259	40		-		900	1			0	
7.875		500 I-80	11.6		18	95			+		1694	_			1289	
					+											
24. Tubing	Record			<u> </u>												
Size	Depth Set (M	(ID) P	acker Depth	(MD)	Size	De	pth Set (	MD)	Packe	r Depth (	MD)	Size	De	epth Set (MI	D)	Packer Depth (MD)
2.375		8960					16 D C									
25. Produci			T.		D. #	_	26. Perfor			1	Т	G.	Τ,		1	D. C.C.
A)	ormation MESAVE	RDF	Тор	7384	Botto	9471		Periorat	ed Inter	vai 34 TO 9	471	Size 0.4	10	No. Holes 213	OPEI	Perf. Status
B)																
C)																
D)	racture, Treat	ment Cer	ment Saugeza	Etc									L_			
	Depth Interva	-	nent squeeze	., Ltc.					Amour	t and Ty	ne of N	/aterial				
		84 TO 94	471 PUMP 1	0,778 BL	LS SL	ICKWAT	ER, 54 BI	BLS HC			•		S 30/50	MESH SA	ND	
28. Product	ion - Interval	A														
Date First Produced	Test	Hours	Test	Oil	Ga		Water BBL		l Gravity		Gas		Product	ion Method		
12/22/2014	Date 01/06/2015	Tested 24	Production	BBL 28.0	MO	2198.0	319.		orr. API		Gravit	У		FLOV	VS FRO	OM WELL
Choke Size 18/64	Tbg. Press. Flwg. 1859 SI	Csg. Press. 2171.0	24 Hr. Rate	Oil BBL 28	Ga M0		Water BBL 319	Ra	as:Oil atio		Well S	Status PGW				
	tion - Interva			<u> </u>		2100	1 518	<u> </u>			<u> </u>	J V V				
Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Ga M0		Water BBL		l Gravity orr. API		Gas Gravit	у	Product	ion Method		
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Ga M0		Water BBL		as:Oil atio		Well S	Status	<u> </u>			

(See Instructions and spaces for additional data on reverse side)
ELECTRONIC SUBMISSION #287273 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

Sundr	ry Numk	er:	59692	API We	ell N	Jumber:	43047	753508	8000	00			
28b. Proc	duction - Inter	val C											
Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API		Gas Gravity		Production Method		
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio		Well Sta	itus			
28c. Proc	duction - Inter	val D		1	1								
Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API		Gas Gravity				
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio		Well Sta	ntus			
29. Dispo	osition of Gas	(Sold, used	d for fuel, ven	ted, etc.)		<u> </u>	·						
30. Sumr Show tests,	mary of Porou	t zones of	porosity and	contents ther	eof: Core e tool ope	d intervals and en, flowing and	l all drill-ster l shut-in pres	n ssures		31. Forn	nation (Log) M	arkers	
and re	Formation		Тор	Bottom	Т	Descriptio	ons, Content	s. etc.			Name		Тор
32. Addi	tional remarks	s (include	plugging proc	cedure):						BIRI MAH WAS	EEN RIVER D'S NEST HOGANY SATCH SAVERDE		Meas. Dept  1135 1532 3021 4855 7380
1. El	e enclosed atta ectrical/Mech andry Notice f	nanical Log	•			2. Geologic 6. Core An	•			OST Repo	ort	4. Directio	onal Survey
34. I here	eby certify tha	at the foreg	going and atta	ched informa	ation is co	omplete and co	rrect as dete	rmined fro	m all av	vailable 1	records (see att	ached instructi	ons):
			Elect			87273 Verified E OIL AND G					tem.		
Name	e(please print	) DOREE	N GREEN				Ti	tle REGU	LATO	RY ANA	LYST II		
Signa	nture	(Electro	nic Submiss	sion)			Da	ate <u>01/07/</u>	2015				
Title 18 Unof the Un	U.S.C. Section ited States an	n 1001 and y false, fic	l Title 43 U.S ctitious or frac	.C. Section 1 dulent statem	212, mak ents or re	te it a crime for epresentations a	r any person as to any ma	knowingly tter within	y and w its juris	villfully to sdiction.	o make to any	department or a	agency

Sundry Number: 59692 API Well Number: 43047535080000

				U	S ROC	KIES RE	EGION	
				Opera	tion S	Summa	ry Report	
Well: NBU 922-	34J4CS GREEN						Spud date: 1/1	1/2014
Project: UTAH-L	JINTAH		Site: NBU	J 922-34N	/I PAD			Rig name no.: SST 57/57, CAPSTAR 310/310
Event: DRILLIN	IG		Start date	: 1/11/20	14			End date: 5/3/2014
Active datum: R Level)	RKB @4,989.00usft (a	bove Mean Se	a	UWI: S\	N/SW/0/9	9/S/22/E/34	4/0/0/26/PM/S/12	203/W/0/497/0/0
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
1/11/2014	12:00 - 13:00	1.00	MIRU	01	E	Р	49	CUT ROTATING HEAD /RIG DOWN TO SKID RIG TO THE NBU 922-34J4CS, WELL 5 OF 5.
	13:00 - 15:30	2.50	MIRU	01	С	Р	49	CONDUCT JSA WITH TRUCKS TO SKID RIG / SKID RIG TO THE NBU 922-34J4CS, WELL 5 OF 5. HOWCROFT FIELD SERVICES HAD 2 TRUCKS 1 SWAMPER /1 SAFETY MAN /RIG UP
	15:30 - 17:30	2.00	MIRU	01	В	Р	49	RIG UP AND WELD ON ROTATING HEAD / RIG UP FLOW LINE.
	17:30 - 18:00	0.50	MIRU	06	Α	Р	49	PRE SPUD SAFETY MEETING, PICKUP MOTOR SHOCK SUB MAKE UP 12.25" BIT
	18:00 - 18:30	0.50	MIRU	06	Α	Р	49	CONTINUE PICKUP MOTOR SHOCK SUB MAKE UP 12.25" BIT
	18:30 - 19:30	1.00	DRLSUR	02	В	P	49	DRILL 12 1/4" SURFACE HOLE F/ 49' TO 200', 151' @ 151 FPH WOB = 8 TO 12K ROTORY RPM = 65 MUD MOTOR RPM = 111 TOTAL = 166 PUMPING 650 GPM @ 200 SPM STAND PIPE PRESSURE ON/OFF = 800/600 TORQUE ON/OFF = 2000/740 PU = 30 / SO = 28 / ROT = 28 PEAK ON LINE ARCHER OFF LINE MUD WT 8.4 NO HOLE ISSUES. TRIP OUT OF HOLE LAY DOWN 12 1/4" BIT PICK UP 11" BIT AND DIRECTIONAL TOOLS /SCRIB AND TRIP IN HOLE
	19:30 - 21:30	2.00	DRLSUR	06	Α	Р	200	TRIP OUT OF HOLE LAY DOWN 12 1/4"PICK UP 11" BIT AND DIRECTIONAL TOOLS /SCRIB AND TRIP IN HOLE
	21:30 - 23:00	1.50	DRLSUR	06	J	Р	200	HIGH V-TOTAL INTERFERENCE WITH OTHER WELLS TRIP OUT OF HOLE TO PICK UP GYRO,WAIT AND PREPAIR GYRO
	23:00 - 0:00	1.00	DRLSUR	06	J	Р	200	MAKE UP MWD TOOLS AND GYRO SCRIBE TOOLS AND TRIP IN HOLE

1/6/2015 10:57:41AM 1

<u> Sundry Number: 59692 API Well Number: 43047535080000</u> **US ROCKIES REGION Operation Summary Report** Well: NBU 922-34J4CS GREEN Spud date: 1/11/2014 Project: UTAH-UINTAH Site: NBU 922-34M PAD Rig name no.: SST 57/57, CAPSTAR 310/310 **Event: DRILLING** End date: 5/3/2014 Start date: 1/11/2014 UWI: SW/SW/0/9/S/22/E/34/0/0/26/PM/S/1203/W/0/497/0/0 Active datum: RKB @4,989.00usft (above Mean Sea P/U Date Time Duration Phase Code Sub MD from Operation Start-End (hr) Code (usft) 1/12/2014 0:00 - 0:30 0.50 DRLSUR 02 Ρ 200 В DRILL 11" SURFACE HOLE F/ 200' TO 236', 36'@ 72' FPH WOB = 15 TO 20K ROTORY RPM = 55 / MUD MOTOR RPM = 106 / **TOTAL = 160** PUMPING 630 GPM @ 200SPM STAND PIPE PRESSURE ON/OFF = 900/650 TORQUE ON/OFF = 2,700/450 PU = 50 / SO = 44 / ROT = 46 PEAK ON LINE ARCHER ON LINE @389' 350CFM MUD WT 8.4 SLID 8' = 3.63% 1.64' ABOVE & .46' LEFT OF THE LINE NO HOLE ISSUES CHANGE ROTATING HEAD RUBBER 0:30 - 2:00 1.50 **DRLSUR** 10 236 ATTEMPT TO REGAIN COMMUNICATION WITH GYRO 2:00 - 6:00 Р 4.00 **DRLSUR** 02 В 236 DRILL 11" SURFACE HOLE F/ 236' TO 585', 349'@ 87' FPH WOB = 15 TO 20K ROTORY RPM = 55 / MUD MOTOR RPM = 106 / **TOTAL = 160** PUMPING 630 GPM @ 200SPM STAND PIPE PRESSURE ON/OFF = 900/650 TORQUE ON/OFF = 2,700/450 PU = 50 / SO = 45 / ROT = 47 PEAK ON LINE ARCHER ON LINE @389' 350CFM **MUD WT 8.4** SLID 125' = 33.69% 1.8' LOW & .5' LEFT OF THE LINE NO HOLE ISSUES 6:00 - 8:30 2.50 **DRLSUR** 02 В Р 585 DRILL 11" SURFACE HOLE F/ 585' TO 858', 273'@ 109' FPH WOB = 15 TO 20K ROTORY RPM = 55 / MUD MOTOR RPM = 106 / **TOTAL = 160** PUMPING 630 GPM @ 200SPM STAND PIPE PRESSURE ON/OFF = 900/650 TORQUE ON/OFF = 2,700/450 PU = 50 / SO = 45 / ROT = 47 PEAK ON LINE ARCHER ON LINE @389' 350CFM **MUD WT 8.4** SLID 125' = 33.69% 1.8' LOW & .5' LEFT OF THE LINE NO HOLE ISSUES 8:30 - 11:00 858 2.50 DRLSUR 06 J Р CIRCULATE BOTTOMS UP TRIP OUT OF HOLE LAY DOWN GYRO AND TRIP IN.

1/6/2015 10:57:41AM 2

RECEIVED: Jan. 07, 2015

				U	S ROC	KIES RE	EGION	
				Opera	tion S	umma	ry Report	
ell: NBU 922-	34J4CS GREEN						Spud date: 1/1	11/2014
oject: UTAH-	UINTAH		Site: NBL	J 922-34N	1 PAD			Rig name no.: SST 57/57, CAPSTAR 310/310
ent: DRILLIN	IG		Start date	e: 1/11/20	14			End date: 5/3/2014
ctive datum: F	RKB @4,989.00usft (ab	ove Mean Se	ea	UWI: SV	V/SW/0/9	9/S/22/E/3	4/0/0/26/PM/S/1	203/W/0/497/0/0
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	11:00 - 12:00	1.00	DRLSUR	02	В	Р	858	DRILL 11" SURFACE HOLE F/ 858' TO 952' 344'@ 94' FPH  WOB = 15 TO 20K  ROTORY RPM = 55 / MUD MOTOR RPM = 106 /  TOTAL = 160  PUMPING 630 GPM @ 200SPM  STAND PIPE PRESSURE ON/OFF = 1279/650  TORQUE ON/OFF = 2,700/450  PU = 64 / SO = 38 / ROT = 46  PEAK ON LINE  ARCHER ON LINE @389' 350CFM  MUD WT 8.4  SLID 165' = 43.88%  2.93' LOW & 1.56' LEFT OF THE LINE  NO HOLE ISSUES
	12:00 - 14:30	2.50	DRLSUR	02	В	Р	952	DRILL 11" SURFACE HOLE F/ 858' TO 1,202' 344'@ 137.6 FPH WOB = 15 TO 20K ROTORY RPM = 55 / MUD MOTOR RPM = 106 / TOTAL = 160 PUMPING 630 GPM @ 200SPM STAND PIPE PRESSURE ON/OFF = 900/650 TORQUE ON/OFF = 2,700/450 PU = 50 / SO = 45 / ROT = 47 PEAK ON LINE ARCHER ON LINE @389' 350CFM MUD WT 8.4 SLID 125' = 33.69% 1.8' LOW & .5' LEFT OF THE LINE NO HOLE ISSUES
	14:30 - 15:00	0.50	DRLSUR	07	Α	Р	1202	RIG SERVICE
	15:00 - 18:00	3.00	DRLSUR	02	В	Р	1202	DRILL 11" SURFACE HOLE F/ 1202' TO 1464', 262'@ 87' FPH  WOB = 15 TO 20K  ROTORY RPM = 55 / MUD MOTOR RPM = 106 / TOTAL = 160  PUMPING 630 GPM @ 200SPM  STAND PIPE PRESSURE ON/OFF = 900/650  TORQUE ON/OFF = 2,700/450  PU = 50 / SO = 45 / ROT = 47  PEAK ON LINE  ARCHER ON LINE @ 1,327' 200CFM  MUD WT 8.4  SLID 194' = 38.19%  1.88' LOW & 2.61' RIGHT OF THE LINE

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NO HOLE ISSUES

<u> Sundry Number: 59692 API Well Number: 43047535080000</u> **US ROCKIES REGION Operation Summary Report** Well: NBU 922-34J4CS GREEN Spud date: 1/11/2014 Project: UTAH-UINTAH Site: NBU 922-34M PAD Rig name no.: SST 57/57, CAPSTAR 310/310 **Event: DRILLING** End date: 5/3/2014 Start date: 1/11/2014 UWI: SW/SW/0/9/S/22/E/34/0/0/26/PM/S/1203/W/0/497/0/0 Active datum: RKB @4,989.00usft (above Mean Sea P/U Date Time Duration Phase Code Sub MD from Operation Start-End (hr) Code (usft) 18:00 - 0:00 6.00 DRLSUR 02 В Ρ 1464 DRILL 11" SURFACE HOLE F/ 1464' TO 1901', 437'@ 73' FPH WOB = 15 TO 20K ROTORY RPM = 55 / MUD MOTOR RPM = 106 / **TOTAL = 160** PUMPING 630 GPM @ 200SPM STAND PIPE PRESSURE ON/OFF = 866/650 TORQUE ON/OFF = 2,800/450 PU = 76 / SO = 55 / ROT = 67 PEAK ON LINE ARCHER ON LINE @ 1,327' 200CFM MUD WT 8.4 SLID 169' = 39.3% 23' LOW & 2.0' RIGHT OF THE LINE NO HOLE ISSUES 1/13/2014 0:00 - 5:00 5.00 DRLSUR 02 1901 DRILL 11" SURFACE HOLE F/ 1901' TO 2233', 332'@ 66' FPH WOB = 15 TO 20K ROTORY RPM = 55 / MUD MOTOR RPM = 74 / TOTAL PUMPING 630 GPM @ 200SPM STAND PIPE PRESSURE ON/OFF = 925/675 TORQUE ON/OFF = 2,800/450 PU = 79 / SO = 65 / ROT = 70 PEAK ON LINE ARCHER ON LINE @ 1,327' 650CFM MUD WT 8.4 SLID 169' = 39.3% 23' HIGH & 2.0' RIGHT OF THE LINE NO HOLE ISSUES 5:00 - 5:30 0.50 **DRLSUR** 2233 \*\*\*WORK ON ARCHER AIR PACKAGE 5:30 - 6:00 0.50 В Р 2233 DRLSUR 02 DRILL 11" SURFACE HOLE F/ 2233' TO 2295', 62'@ 124' FPH WOB = 15 TO 20K ROTORY RPM = 55 / MUD MOTOR RPM = 74 / TOTAL PUMPING 463 GPM @ 200SPM STAND PIPE PRESSURE ON/OFF = 925/675 TORQUE ON/OFF = 2,800/450 PU = 79 / SO = 65 / ROT = 70 PEAK ON LINE ARCHER ON LINE @ 1,327' 650CFM **MUD WT 8.4** SLID 92' = 24.47% 18' HIGH & 3.4' LEFT OF THE LINE NO HOLE ISSUES 6:00 - 7:00 1.00 **DRLSUR** 2295 08 Α Ζ \*\*\*WORKING ON ARCHER AIR PACKAGE PULLED OUT TO 1995' GOT AIR COMPRESSOR GOING BROKE CIRCULATION WENT BACK TO BOTTOM.

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<u> Sundry Number: 59692 API Well Number: 43047535080000</u> **US ROCKIES REGION Operation Summary Report** Well: NBU 922-34J4CS GREEN Spud date: 1/11/2014 Project: UTAH-UINTAH Site: NBU 922-34M PAD Rig name no.: SST 57/57, CAPSTAR 310/310 **Event: DRILLING** End date: 5/3/2014 Start date: 1/11/2014 UWI: SW/SW/0/9/S/22/E/34/0/0/26/PM/S/1203/W/0/497/0/0 Active datum: RKB @4,989.00usft (above Mean Sea P/U Date Time Duration Phase Code Sub MD from Operation Start-End (hr) Code (usft) 7:00 - 12:00 5.00 DRLSUR 02 Ρ 2295 В DRILL 11" SURFACE HOLE F/ 2295' TO 2586', 291'@ 58' FPH WOB = 15 TO 20K ROTORY RPM = 55 / MUD MOTOR RPM = 74 / TOTAL = 130 PUMPING 466 GPM @ 200SPM STAND PIPE PRESSURE ON/OFF = 925/675 TORQUE ON/OFF = 2,800/450 PU = 79 / SO = 65 / ROT = 70 PEAK ON LINE ARCHER ON LINE @ 1,327' 650CFM MUD WT 8.4 SLID 92' = 24.47% 18' HIGH & 3.4' LEFT OF THE LINE TIGHT HOLE 12:00 - 12:30 0.50 DRLSUR 02 2586 DRILL 11" SURFACE HOLE F/ 2586' TO 2618' , 32'@ 64' FPH WOB = 15 TO 20K ROTORY RPM = 55 / MUD MOTOR RPM = 74 / TOTAL PUMPING 466 GPM @ 200SPM STAND PIPE PRESSURE ON/OFF = 925/675 TORQUE ON/OFF = 2,800/450 PU = 79 / SO = 65 / ROT = 70 PEAK ON LINE ARCHER ON LINE @ 1,327' 650CFM MUD WT 8.4 SLID 92' = 24.47% 18' HIGH & 3.4' LEFT OF THE LINE **TIGHT HOLE** 12:30 - 13:30 1.00 **DRLSUR** 05 С Ρ 2618 CIRCULATE 13:30 - 14:30 1.00 **DRLSUR** Ε 2618 06 Р SHORT TRIP PAST 1800' 14:30 - 16:30 2.00 **DRLSUR** 05 Ρ 2618 Α CIRCULATE AND CONDITION HOLE /UNLOAD HOLE/PUMP 75 BBLS HEAVY KILL MUD / FLOW CHECK. (SAVED 4 HRS) 16:30 - 17:30 1.00 **DRLSUR** Ζ 2618 08 Α \*\*\*WORK ON FLOOR MOTOR AIR BOOT FOR AIR TO 17:30 - 18:00 0.50 **DRLSUR** 06 D Ρ 2618 LAY DOWN DRILL PIPE / BHA AND DIRECTIONAL 18:00 - 21:00 3.00 **DRLSUR** 06 D Р 2618 LAY DOWN DRILL PIPE / BHA AND DIRECTIONAL **TOOLS** 21:00 - 21:30 2618 0.50 **CSGSUR** Ρ 12 CHANGE OVER TO RUN CASING / LEVEL RIG, SWIVEL AND BOOM INSTALL ROTATING RUBBER 21:30 - 0:00 2.50 **CSGSUR** 12 Ρ 2618 PREJOB SAFETY WITH RIG CREW, RUN 8 5/8", 28#. J-55, LT&C CASING WITH CTE FLOAT GUIDE SHOE AND BAFFLE PLATE LOCATED 1 JOINT ABOVE THE SHOE. 5 CENTRALIZERS SPACED 10' ABOVE THE SHOE, 2ND & 3RD COLLARS, AND EVERY THIRD

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**COLLAR** 

<u> Sundry Number: 59692 API Well Number: 43047535080000</u> US ROCKIES REGION **Operation Summary Report** Well: NBU 922-34J4CS GREEN Spud date: 1/11/2014 Project: UTAH-UINTAH Site: NBU 922-34M PAD Rig name no.: SST 57/57, CAPSTAR 310/310 **Event: DRILLING** End date: 5/3/2014 Start date: 1/11/2014 UWI: SW/SW/0/9/S/22/E/34/0/0/26/PM/S/1203/W/0/497/0/0 Active datum: RKB @4,989.00usft (above Mean Sea Date P/U Time Duration Phase Code MD from Operation Sub Start-End Code (usft) (hr) 1/14/2014 0:00 - 6:00 **CSGSUR** 2618 6.00 12 С Ρ PREJOB SAFETY WITH RIG CREW AND CONTINUE TO. RUN 57 JTS OF 8 5/8", 28#, J-55, LT&C CASING WITH CTE FLOAT GUIDE SHOE AND BAFFLE PLATE LOCATED 1 JOINT ABOVE THE SHOE. 5 CENTRALIZERS SPACED 10' ABOVE THE SHOE, 2ND & 3RD COLLARS, AND EVERY THIRD COLLAR TO 2,226'. LANDED CASING SHOE AT 2,535'. BAFFLE PLATE @ 2,583' 6:00 - 7:30 1.50 **CSGSUR** 12 C 2618 CONTINUE TO. RUN 57 JTS OF 8 5/8", 28#, J-55, LT&C CASING WITH CTE FLOAT GUIDE SHOE AND BAFFLE PLATE LOCATED 1 JOINT ABOVE THE SHOE. 5 CENTRALIZERS SPACED 10' ABOVE THE SHOE, 2ND & 3RD COLLARS, AND EVERY THIRD COLLAR TO 2,226'. LANDED CASING SHOE AT 2,535'. BAFFLE PLATE @ 2,583' - 8:00 0.50 **CSGSUR** 05 D 2618 CIRCULATE TO CLEAR CASING 8:00 - 10:30 Ρ 2618 2 50 **CSGSUR** 12 F PREJOB SAFETY MEETING WITH PRO PETRO CEMENTERS & RIG CREW AND CEMENT. RAN 200' OF 1" PIPE DOWN BACKSIDE OF CASING TESTED LINES TO 2000 PSI PUMPED 140 BBLS FRESH WATER CLEARING SHOE MIXED AND PUMPED 20 BBL GELL WATER FLUSH AHEAD OF CEMENT MIXED AND PUMPED 300 SX OF PREMIUM CEMENT WITH 2% CACL2 & 1/4 LB/SX FLOCELE. 61.4 BBL OF SLURRY MIXED @ 15.8 PPG WITH YIELD OF 1.15 CF/SX. DROP PLUG ON FLY, DISPLACE CEMENT WITH 141.4 BBL FRESH WATER. NO RETURNS THROUGH OUT DISPLACEMENT. FINAL LIFT OF 270 PSI @ 7.5 BBL/MINUTE. BUMP PLUG WITH 280/500 PSI. HELD 480 PSI FOR 5 MINUTES.CHECK FLOAT. FLOAT HELD. TOP JOB # 1: PUMP CEMENT DOWN 1" PIPE WITH 150 SX PREMIUM CEMENT WITH 4% CACL2, 2% GR-3, & 1/4 LB/SX FLOCELE. 30.7 BBL OF SLURRY MIXED @ 15.8 PPG WITH YIELD OF 1.15 CF/SX. NO CEMENT TO SURFACE. RELEASE RIG @ 10:30, 01/14/2014. TOP JOB # 2: PUMP CEMENT DOWN 1" PIPE WITH 200SX PREMIUM CEMENT WITH 4% CACL2, 2% GR-3, & 1/4 LB/SX FLOCELE. 40.9 BBL OF SLURRY MIXED @ 15.8 PPG WITH YIELD OF 1.15 CF/SX NO CEMENT TO SURFACE CUT CASING. TOP JOB # 3: PUMP CEMENT DOWN 1" PIPE WITH 150 SX PREMIUM CEMENT WITH 4% CACL2, 2% GR-3, & 1/4 LB/SX FLOCELE. 30.7 BBL OF SLURRY MIXED @ 15.8 PPG WITH YIELD OF 1.15 CF/SX TOP JOB # 4: PUMP CEMENT DOWN 1" PIPE WITH 100 SX PREMIUM CEMENT WITH 4% CACL2, 2% GR-3, & 1/4 LB/SX FLOCELE.20.48 BBL OF SLURRY MIXED @ 15.8 PPG WITH YIELD OF 1.15 CF/SX CEMENT TO SURFACE RELEASE CEMENTERS - 1:00 0:00 4/27/2014 1.00 MIRU3 С 2618 RIG DOWN, SKID RIG 10', RIG UP 1:00 - 3:00 2.00 PRPSPD Α Ρ 2618 14 NIPPLE UP BOP, INSTALL BALES & ELEVATORS, HOOK UP GAS BUSTER, HOOK UP FLOW LINE & CHOKE LINE, HOOK UP **ACCUMULATOR HOSES** 

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<u> Sundry Number: 59692 API Well Number: 43047535080000</u> US ROCKIES REGION **Operation Summary Report** Well: NBU 922-34J4CS GREEN Spud date: 1/11/2014 Project: UTAH-UINTAH Site: NBU 922-34M PAD Rig name no.: SST 57/57, CAPSTAR 310/310 **Event: DRILLING** End date: 5/3/2014 Start date: 1/11/2014 UWI: SW/SW/0/9/S/22/E/34/0/0/26/PM/S/1203/W/0/497/0/0 Active datum: RKB @4,989.00usft (above Mean Sea P/U Date Time Duration Phase Code Sub MD from Operation Start-End (hr) Code (usft) 3:00 - 6:30 3.50 **PRPSPD** 15 Ρ 2618 Α HOLD SAFETY MEETING. RUN TEST ASSY. TEST BOP WITH A-1 TESTERS -TEST ANNULAR TO 250 PSI LOW/ 5 MINUTES 2,500 PSI HIGH 10 MINUTES. PIPE & BLIND RAMS, FLOOR VALVES, IBOP, HCR VALVE, KILL LINE VALVES, TEST BOP'S, CHOKE MANIFOLD TO 250 PSI LOW/ 5 MINUTES -5,000 PSI HIGH 10 MINUTES, HOLD ACCUMULATOR FUNCTION TEST, TEST CASING @ 1,500 PSI FOR 30 MINUTES, **RIG DOWN** (DURRING B.O.P. TEST) VERIFY ALL TOOLS AND BACK UP TOOLS ARE ON LOCATION. CHECK AND DOCUMENT ALL OUTER DIAMETER'S AND INNER DIAMETER'S ON DOWN HOLE **EQUIPMENT** 6:30 - 7:00 0.50 **PRPSPD** 2618 SLIP & CUT (14 WRAPS) 77' OF DRILLING LINE 7:00 - 8:00 Р 1.00 В 2618 **PRPSPD** 14 **INSTALL WEAR BUSHING** REVIEW DIRECTIONAL PLANS AND PLATS AND VERIFY LAT/LONGS AND WELL ORDER PRIOR TO SPUD, VERIFY DIRECTIONAL DRILLERS PLAN IS THE MOST RECENT AND APPROVED VERSION, REFERENCE WELLBORE DIAGRAMS FOR EXACT CASING DESIGN AND GENERAL OVERVEW OF WELLBORE. 8:00 - 9:00 1.00 **PRPSPD** 06 Р 2618 PICK UP SCIENTIFIC MOTOR- 6 1/2", 1.5 BEND, 7/8 LOBE, 3.3 STAGE, .14 RPG MUD MOTOR, (SER #6326-114) MAKE UP SMITH MDI616 PDC BIT, DRESSED WITH 6 X 15 JETS, (TFA = 1.035), (SER #JH9222) PICK UP MONEL DRILL COLLARS & INSTALL MWD TOOL, ORIENT & SCRIBE TOOLS 9:00 - 9:30 0.50 PRPSPD 06 2618 PICK UP HEAVY WEIGHT DRILL PIPE, AND DRILL PIPE, TRIP IN HOLE TO TOP OF CEMENT @ 2,500' INSTALL ROTATING RUBBER 9:30 - 10:30 1.00 DRLPRC Р 2618 02 F SPUD @ 04/26/2014 09:30

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DRILL CEMENT, BAFFLE, & FLOAT EQUIPMENT,

CLEAN OUT TO 2,618'

DRILLED 130' OF CEMENT

<u> Sundry Number: 59692 API Well Number: 43047535080000</u> **US ROCKIES REGION Operation Summary Report** Well: NBU 922-34J4CS GREEN Spud date: 1/11/2014 Project: UTAH-UINTAH Site: NBU 922-34M PAD Rig name no.: SST 57/57, CAPSTAR 310/310 **Event: DRILLING** End date: 5/3/2014 Start date: 1/11/2014 UWI: SW/SW/0/9/S/22/E/34/0/0/26/PM/S/1203/W/0/497/0/0 Active datum: RKB @4,989.00usft (above Mean Sea P/U Date Time Duration Phase Code Sub MD from Operation Start-End (hr) Code (usft) 10:30 - 16:30 6.00 DRLPRC 02 Ρ 2618 D DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE FROM / 2,618' TO / 3,304' = 686' @ 114' PER HOUR WEIGHT ON BIT = 18-24K STROKES PER MINUTE 2 PUMP @ 60/60 GALLONS PER MINUTE = 590 MUD MOTOR RPM = 83, TOP DRIVE RPM = 40-60, TOTAL RPM = 123-143 FT/LBS TORQUE = 10-12K STAND PIPE PRESSURE ON BOTTOM = 1,900 STAND PIPE PRESSURE OFF BOTTOM = 1,600 STRING WEIGHT UP/DOWN/ROTATING = 150K / 130K / 140K DRAG = 10K HOLE IN GOOD CONDITION SLIDE 279' & 37% OF FOOTAGE CURRENTLY 14.9' High & 0.13' Right OF PLAN LINE **BOS DE-WATERING - AS NEEDED CENTRIFUGE - RUNNING CONVENTIONAL DE-SANDER - RUNNING** MUD WEIGHT = 8.5 PPG VISCOSITY = 27 SECONDS DRILLING WITH FLOWZAN MUD SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB 16:30 - 17:00 0.50 DRLPRC 07 3304 RIG SERVICE, SERVICE TOP DRIVE, SERVICE DRAW WORKS, CHECK BRAKES AND ADJUST, SERVICE CROWN. 17:00 - 0:00 DRLPRC 3304 7.00 02 DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE FROM / 3,304' TO / 3,900' = 596' @ 85' PER HOUR WEIGHT ON BIT = 18-24K STROKES PER MINUTE 2 PUMP @ 60/60 GALLONS PER MINUTE = 590 MUD MOTOR RPM = 83 TOP DRIVE RPM = 40-60TOTAL RPM = 123-143 FT/LBS TORQUE = 10-12K STAND PIPE PRESSURE ON BOTTOM = 1.900 STAND PIPE PRESSURE OFF BOTTOM = 1.600 STRING WEIGHT UP/DOWN/ROTATING = 150K / 130K / 140K DRAG = 10K HOLE IN GOOD CONDITION SLIDE 201' & 48% OF FOOTAGE CURRENTLY 13.23 HIGH & 16.30' LEFT OF PLAN **BOS DE-WATERING - AS NEEDED CENTRIFUGE - RUNNING CONVENTIONAL DE-SANDER - RUNNING** MUD WEIGHT = 8.5 PPG VISCOSITY = 27 SECONDS DRILLING WITH FLOWZAN MUD SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB

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<u> Sundry Number: 59692 API Well Number: 43047535080000</u> **US ROCKIES REGION Operation Summary Report** Well: NBU 922-34J4CS GREEN Spud date: 1/11/2014 Project: UTAH-UINTAH Site: NBU 922-34M PAD Rig name no.: SST 57/57, CAPSTAR 310/310 **Event: DRILLING** End date: 5/3/2014 Start date: 1/11/2014 UWI: SW/SW/0/9/S/22/E/34/0/0/26/PM/S/1203/W/0/497/0/0 Active datum: RKB @4,989.00usft (above Mean Sea P/U Date Time Duration Phase Code Sub MD from Operation Start-End (hr) Code (usft) 4/28/2014 0:00 - 6:00 6.00 DRLPRC 02 Ρ 3900 D DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE FROM / 3,900' TO / 4,256' = 356' @ 59' PER HOUR WEIGHT ON BIT = 18-24K STROKES PER MINUTE 2 PUMP @ 60/60 GALLONS PER MINUTE = 590 MUD MOTOR RPM = 83, TOP DRIVE RPM = 40-60, TOTAL RPM = 123-143 FT/LBS TORQUE = 10-12K STAND PIPE PRESSURE ON BOTTOM = 1,900 STAND PIPE PRESSURE OFF BOTTOM = 1,600 STRING WEIGHT UP/DOWN/ROTATING = 150K / 130K / 140K DRAG = 10K HOLE IN GOOD CONDITION SLIDE 202' & 66% OF FOOTAGE CURRENTLY 4.71' High & 17.00' Left OF PLAN LINE **BOS DE-WATERING - AS NEEDED CENTRIFUGE - RUNNING CONVENTIONAL DE-SANDER - RUNNING** MUD WEIGHT = 8.5 PPG VISCOSITY = 27 SECONDS DRILLING WITH FLOWZAN MUD SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB DRLPRC 6:00 - 12:00 6.00 02 D 4256 DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE FROM / 4,256' TO / 4,774' = 518' @ 86' PER HOUR WEIGHT ON BIT = 18-24K STROKES PER MINUTE 2 PUMP @ 60/60 GALLONS PER MINUTE = 590 MUD MOTOR RPM = 83, TOP DRIVE RPM = 40-60, TOTAL RPM = 123-143 FT/LBS TORQUE = 12-14K STAND PIPE PRESSURE ON BOTTOM = 2,000 STAND PIPE PRESSURE OFF BOTTOM = 1,700 STRING WEIGHT UP/DOWN/ROTATING = 180K / 130K / 160K DRAG = 20K HOLE IN GOOD CONDITION SLIDE 288' & 51% OF FOOTAGE CURRENTLY 3.46' High & 8.83' Left OF PLAN LINE **BOS DE-WATERING - AS NEEDED CENTRIFUGE - RUNNING CONVENTIONAL DE-SANDER - RUNNING** MUD WEIGHT = 8.8 PPG VISCOSITY = 31 SECONDS DRILLING WITH FLOWZAN MUD SYSTEM

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MIXING HIGH VISCOSITY SWEEPS WITH CALCARB

<u> Sundry Number: 59692 API Well Number: 43047535080000</u> **US ROCKIES REGION Operation Summary Report** Well: NBU 922-34J4CS GREEN Spud date: 1/11/2014 Project: UTAH-UINTAH Site: NBU 922-34M PAD Rig name no.: SST 57/57, CAPSTAR 310/310 **Event: DRILLING** End date: 5/3/2014 Start date: 1/11/2014 UWI: SW/SW/0/9/S/22/E/34/0/0/26/PM/S/1203/W/0/497/0/0 Active datum: RKB @4,989.00usft (above Mean Sea Date P/U Time Duration Phase Code Sub MD from Operation Start-End (hr) Code (usft) 12:00 - 15:30 3.50 DRLPRC 02 Ρ 4774 D DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE FROM / 4,774' TO / 5,013' = 239' @ 68' PER HOUR WEIGHT ON BIT = 18-24K STROKES PER MINUTE 2 PUMP @ 60/60 GALLONS PER MINUTE = 590 MUD MOTOR RPM = 83, TOP DRIVE RPM = 40-60, TOTAL RPM = 123-143 FT/LBS TORQUE = 12-14K STAND PIPE PRESSURE ON BOTTOM = 2,000 STAND PIPE PRESSURE OFF BOTTOM = 1,700 STRING WEIGHT UP/DOWN/ROTATING = 190K / 140K / 170K DRAG = 20K HOLE IN GOOD CONDITION SLIDE 130' & 41.5% OF FOOTAGE CURRENTLY 6.0' High & 7.8' Left OF PLAN LINE **BOS DE-WATERING - AS NEEDED CENTRIFUGE - RUNNING CONVENTIONAL DE-SANDER - RUNNING** MUD WEIGHT = 8.8 PPG VISCOSITY = 31 SECONDS DRILLING WITH FLOWZAN MUD SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB 15:30 - 16:00 0.50 DRLPRC 07 5013 RIG SERVICE, SERVICE TOP DRIVE, SERVICE DRAW WORKS, CHECK BRAKES AND ADJUST, SERVICE CROWN. 16:00 - 0:00 8.00 DRLPRC 5013 02 DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE FROM / 5,013' TO / 5,788' = 775' @ 96' PER HOUR WEIGHT ON BIT = 18-24K STROKES PER MINUTE 2 PUMP @ 60/60 GALLONS PER MINUTE = 590 MUD MOTOR RPM = 83 TOP DRIVE RPM = 40-60TOTAL RPM = 123-143 FT/I BS TORQUE = 12-14K STAND PIPE PRESSURE ON BOTTOM = 2.000 STAND PIPE PRESSURE OFF BOTTOM = 1.700 STRING WEIGHT UP/DOWN/ROTATING = 220K / 150K / 200K DRAG = 20K HOLE IN GOOD CONDITION SLIDE 114' & 21% OF FOOTAGE CURRENTLY 33.23' High & 2.93' Left OF PLAN LINE **BOS DE-WATERING - AS NEEDED CENTRIFUGE - RUNNING CONVENTIONAL DE-SANDER - RUNNING** MUD WEIGHT = 8.8 PPG VISCOSITY = 31 SECONDS DRILLING WITH FLOWZAN MUD SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB

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				U	S ROC	KIES RE	EGION	
				Opera	tion S	Summa	ry Report	
/ell: NBU 922-3	34J4CS GREEN						Spud date: 1/1	1/2014
roject: UTAH-U	JINTAH		Site: NBL	J 922-34N	1 PAD			Rig name no.: SST 57/57, CAPSTAR 310/310
vent: DRILLING	 G		Start date	e: 1/11/20	14			End date: 5/3/2014
ctive datum: Rł evel)	KB @4,989.00usft (at	oove Mean Se	ea	UWI: SV	V/SW/0/9	9/S/22/E/3	4/0/0/26/PM/S/1	203/W/0/497/0/0
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
4/29/2014	0:00 - 6:00	6.00	DRLPRC	02	D	P	5788	DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE FROM / 5,788' TO / 6,344' = 556' @ 92' PER HOUR WEIGHT ON BIT = 18-24K  STROKES PER MINUTE 2 PUMP @ 60/60  GALLONS PER MINUTE = 590  MUD MOTOR RPM = 83,  TOP DRIVE RPM = 40-60,  TOTAL RPM = 123-143  FT/LBS TORQUE = 12-14K  STAND PIPE PRESSURE ON BOTTOM = 2,000  STAND PIPE PRESSURE OFF BOTTOM = 1,700  STRING WEIGHT UP/DOWN/ROTATING = 220K / 150K / 200K DRAG = 20K  HOLE IN GOOD CONDITION  SLIDE 83' & 17% OF FOOTAGE  CURRENTLY 21.73' High & .91' Right OF PLAN LINE BOS DE-WATERING - AS NEEDED  CENTRIFUGE - RUNNING CONVENTIONAL  DE-SANDER - RUNNING  MUD WEIGHT = 8.8 PPG  VISCOSITY = 31 SECONDS  DRILLING WITH FLOWZAN MUD SYSTEM
	6:00 - 12:00	6.00	DRLPRC	02	D	P	6344	MIXING HIGH VISCOSITY SWEEPS WITH CALCARB  DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE  FROM / 6,344' TO / 6,740' = 396' @ 66' PER HOUR  WEIGHT ON BIT = 18-24K  STROKES PER MINUTE 1 PUMP @ 105  GALLONS PER MINUTE = 516  MUD MOTOR RPM = 72,  TOP DRIVE RPM = 40-60,  TOTAL RPM = 112-132  FT/LBS TORQUE = 16-18K  STAND PIPE PRESSURE ON BOTTOM = 2,000  STAND PIPE PRESSURE OFF BOTTOM = 1,700  STRING WEIGHT UP/DOWN/ROTATING = 220K / 150K  / 200K DRAG = 20K  HOLE IN GOOD CONDITION  SLIDE 68' & 14% OF FOOTAGE  CURRENTLY 2.9' Low & 1.2' Right OF PLAN LINE  BOS DE-WATERING - AS NEEDED  CENTRIFUGE - RUNNING CONVENTIONAL  DE-SANDER - RUNNING  MUD WEIGHT = 8.8 PPG  VISCOSITY = 31 SECONDS  DRILLING WITH FLOWZAN MUD SYSTEM

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MIXING HIGH VISCOSITY SWEEPS WITH CALCARB

<u> Sundry Number: 59692 API Well Number: 43047535080000</u> **US ROCKIES REGION Operation Summary Report** Well: NBU 922-34J4CS GREEN Spud date: 1/11/2014 Project: UTAH-UINTAH Site: NBU 922-34M PAD Rig name no.: SST 57/57, CAPSTAR 310/310 **Event: DRILLING** End date: 5/3/2014 Start date: 1/11/2014 UWI: SW/SW/0/9/S/22/E/34/0/0/26/PM/S/1203/W/0/497/0/0 Active datum: RKB @4,989.00usft (above Mean Sea Date P/U Time Duration Phase Code Sub MD from Operation Start-End (hr) Code (usft) 12:00 - 14:30 2.50 DRLPRC 02 Ρ 6740 D DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE FROM / 6,740' TO / 6,913' = 173' @ 69' PER HOUR WEIGHT ON BIT = 18-24K STROKES PER MINUTE 1 PUMP @ 105 GALLONS PER MINUTE = 516 MUD MOTOR RPM = 72, TOP DRIVE RPM = 40-60, TOTAL RPM = 112-132 FT/LBS TORQUE = 16-18K STAND PIPE PRESSURE ON BOTTOM = 2,000 STAND PIPE PRESSURE OFF BOTTOM = 1,700 STRING WEIGHT UP/DOWN/ROTATING = 220K / 150K / 200K DRAG = 20K HOLE IN GOOD CONDITION SLIDE 36' & 9% OF FOOTAGE CURRENTLY .34' Low & 3.0' Right OF PLAN LINE **BOS DE-WATERING - AS NEEDED CENTRIFUGE - RUNNING CONVENTIONAL DE-SANDER - RUNNING** MUD WEIGHT = 8.8 PPG VISCOSITY = 31 SECONDS DRILLING WITH FLOWZAN MUD SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB 14:30 - 15:00 0.50 DRLPRC 07 6913 RIG SERVICE, SERVICE TOP DRIVE, SERVICE DRAW WORKS, CHECK BRAKES AND ADJUST, SERVICE CROWN. 15:00 - 0:00 DRLPRC 6913 9.00 02 DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE FROM / 6,913' TO / 7,483' = 570' @ 63' PER HOUR WEIGHT ON BIT = 18-24K STROKES PER MINUTE 1 PUMP @ 105 GALLONS PER MINUTE = 516 MUD MOTOR RPM = 72 TOP DRIVE RPM = 40-60. TOTAL RPM = 112-132 FT/LBS TORQUE = 18-20K STAND PIPE PRESSURE ON BOTTOM = 2.000 STAND PIPE PRESSURE OFF BOTTOM = 1.700 STRING WEIGHT UP/DOWN/ROTATING = 250K / 170K / 230K DRAG = 20K HOLE IN GOOD CONDITION SLIDE 80' & 23% OF FOOTAGE CURRENTLY 11.95' North & 4.58' West OF PLAN **BOS DE-WATERING - AS NEEDED CENTRIFUGE - RUNNING CONVENTIONAL DE-SANDER - RUNNING** MUD WEIGHT = 8.8 PPG VISCOSITY = 31 SECONDS DRILLING WITH FLOWZAN MUD SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB

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<u> Sundry Number: 59692 API Well Number: 43047535080000</u> **US ROCKIES REGION Operation Summary Report** Well: NBU 922-34J4CS GREEN Spud date: 1/11/2014 Project: UTAH-UINTAH Site: NBU 922-34M PAD Rig name no.: SST 57/57, CAPSTAR 310/310 **Event: DRILLING** End date: 5/3/2014 Start date: 1/11/2014 UWI: SW/SW/0/9/S/22/E/34/0/0/26/PM/S/1203/W/0/497/0/0 Active datum: RKB @4,989.00usft (above Mean Sea Date P/U Time Duration Phase Code Sub MD from Operation Start-End (hr) Code (usft) 4/30/2014 0:00 - 6:00 6.00 DRLPRC 02 Ρ 7483 D DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE FROM / 7,483' TO / 7,672' = 189' @ 31' PER HOUR WEIGHT ON BIT = 18-24K STROKES PER MINUTE 1 PUMP @ 105 GALLONS PER MINUTE = 516 MUD MOTOR RPM = 72, TOP DRIVE RPM = 40-60, TOTAL RPM = 112-132 FT/LBS TORQUE = 18-20K STAND PIPE PRESSURE ON BOTTOM = 2,000 STAND PIPE PRESSURE OFF BOTTOM = 1,700 STRING WEIGHT UP/DOWN/ROTATING = 250K / 170K / 210K DRAG = 40K HOLE IN GOOD CONDITION SLIDE 80' & 42% OF FOOTAGE CURRENTLY 8.60' North & 7.16' East OF PLAN LINE **BOS DE-WATERING - AS NEEDED CENTRIFUGE - RUNNING CONVENTIONAL DE-SANDER - RUNNING** MUD WEIGHT = 8.8 PPG VISCOSITY = 31 SECONDS DRILLING WITH FLOWZAN MUD SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB, MIXING SOME LCM AND TORQUE BUSTER TO HELP WITH THE TORQUE AND DRAG 6:00 - 12:00 6.00 **DRLPRV** 7672 02 В DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE FROM / 7,672' TO / 8,123' = 451' @ 75' PER HOUR WEIGHT ON BIT = 18-24K STROKES PER MINUTE 1 PUMP @ 105 GALLONS PER MINUTE = 516 MUD MOTOR RPM = 72, TOP DRIVE RPM = 40-60, TOTAL RPM = 112-132 FT/LBS TORQUE = 18-21K STAND PIPE PRESSURE ON BOTTOM = 2,000 STAND PIPE PRESSURE OFF BOTTOM = 1,700 STRING WEIGHT UP/DOWN/ROTATING = 260K / 170K / 210K DRAG = 50K HOLE IN GOOD CONDITION SLIDE 51' & 11% OF FOOTAGE CURRENTLY 1.2' North & 8.8' East OF PLAN LINE **BOS DE-WATERING - AS NEEDED CENTRIFUGE - RUNNING CONVENTIONAL DE-SANDER - RUNNING** MUD WEIGHT = 8.8 PPG VISCOSITY = 31 SECONDS DRILLING WITH FLOWZAN MUD SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB MIXING SOME LCM AND TORQUE BUSTER TO HELP WITH THE TORQUE AND DRAG

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<u> Sundry Number: 59692 API Well Number: 43047535080000</u> **US ROCKIES REGION Operation Summary Report** Well: NBU 922-34J4CS GREEN Spud date: 1/11/2014 Project: UTAH-UINTAH Site: NBU 922-34M PAD Rig name no.: SST 57/57, CAPSTAR 310/310 **Event: DRILLING** End date: 5/3/2014 Start date: 1/11/2014 UWI: SW/SW/0/9/S/22/E/34/0/0/26/PM/S/1203/W/0/497/0/0 Active datum: RKB @4,989.00usft (above Mean Sea Date P/U Time Duration Phase Code Sub MD from Operation Start-End (hr) Code (usft) 12:00 - 14:30 2.50 **DRLPRV** 02 Ρ 8123 В DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE FROM / 8,123' TO / 8,241' = 118' @ 47' PER HOUR WEIGHT ON BIT = 18-24K STROKES PER MINUTE 1 PUMP @ 105 GALLONS PER MINUTE = 516 MUD MOTOR RPM = 72, TOP DRIVE RPM = 40-60, TOTAL RPM = 112-132 FT/LBS TORQUE = 18-21K STAND PIPE PRESSURE ON BOTTOM = 2,000 STAND PIPE PRESSURE OFF BOTTOM = 1,700 STRING WEIGHT UP/DOWN/ROTATING = 260K / 170K / 210K DRAG = 50K HOLE IN GOOD CONDITION SLIDE 30' & 9% OF FOOTAGE CURRENTLY 11.95' North & 4.58' West OF PLAN LINE **BOS DE-WATERING - AS NEEDED CENTRIFUGE - RUNNING CONVENTIONAL DE-SANDER - RUNNING** MUD WEIGHT = 8.8 PPG VISCOSITY = 31 SECONDS DRILLING WITH FLOWZAN MUD SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB MIXING SOME LCM AND TORQUE BUSTER TO HELP WITH THE TORQUE AND DRAG 14:30 - 15:00 0.50 **DRLPRV** 07 8241 RIG SERVICE, SERVICE TOP DRIVE, SERVICE DRAW WORKS, CHECK BRAKES AND ADJUST, SERVICE CROWN. 15:00 - 16:00 1.00 DRLPRV 8241 02 DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE FROM / 8,241' TO / 8,431' = 190' @ 190' PER HOUR WEIGHT ON BIT = 18-24K STROKES PER MINUTE 1 PUMP @ 105 GALLONS PER MINUTE = 516 MUD MOTOR RPM = 72 TOP DRIVE RPM = 40-60. TOTAL RPM = 112-132 FT/LBS TORQUE = 18-21K STAND PIPE PRESSURE ON BOTTOM = 2,000 STAND PIPE PRESSURE OFF BOTTOM = 1,700 STRING WEIGHT UP/DOWN/ROTATING = 260K / 170K / 210K DRAG = 50K HOLE IN GOOD CONDITION SLIDE 21' & 6% OF FOOTAGE CURRENTLY 1.4' South & 9.5' East OF PLAN LINE **BOS DE-WATERING - AS NEEDED** CENTRIFUGE - RUNNING CONVENTIONAL **DE-SANDER - RUNNING** MUD WEIGHT = 8.8 PPG VISCOSITY = 31 SECONDS DRILLING WITH FLOWZAN MUD SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB MIXING SOME LCM AND TORQUE BUSTER TO HELP WITH THE TORQUE AND DRAG

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Sundry	Number:	59692	APT We	<u>и ПГ</u>	Iumbe	r: 4	3047535	080000
-				U	S ROC	KIES RE	EGION	
				Opera	tion S	umma	ry Report	
Well: NBU 922-34	J4CS GREEN						Spud date: 1/1	1/2014
Project: UTAH-UIN	NTAH		Site: NBL	922-34N	1 PAD			Rig name no.: SST 57/57, CAPSTAR 310/310
Event: DRILLING			Start date	: 1/11/20	14			End date: 5/3/2014
Active datum: RKI Level)	B @4,989.00usft (al	bove Mean S	ea	UWI: SV	N/SW/0/9	)/S/22/E/34	4/0/0/26/PM/S/1	203/W/0/497/0/0
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	16:00 - 18:00	2.00	DRLPRV	03	A	X	8431	***TIGHT HOLE REAMED BACK AND FORTH WHILE MIXING LCM AND TORQUE BUSTER THINK THAT THE SLIDE BEFOR REAMING BEGAN WAS THE CAUSE OF EXCESS TORQUE AND DRAG WORKED STRING BACK TO DRILLING PARAMETERS AND PUT IT BACK ON DIG.
	18:00 - 0:00	6.00	DRLPRV	02	В	P	8431	DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE FROM / 8,431' TO / 8,669' = 238' @ 39' PER HOUR WEIGHT ON BIT = 18-24K STROKES PER MINUTE 1 PUMP @ 105 GALLONS PER MINUTE = 516 MUD MOTOR RPM = 72, TOP DRIVE RPM = 40-60, TOTAL RPM = 112-132 FT/LBS TORQUE = 18-21K STAND PIPE PRESSURE ON BOTTOM = 2,000 STAND PIPE PRESSURE OFF BOTTOM = 1,700 STRING WEIGHT UP/DOWN/ROTATING = 270K / 170K / 220K DRAG = 50K HOLE IN GOOD CONDITION SLIDE 30' & 15% OF FOOTAGE CURRENTLY 1.5' South & 8' East OF PLAN LINE BOS DE-WATERING - AS NEEDED CENTRIFUGE - RUNNING CONVENTIONAL DE-SANDER - RUNNING MUD WEIGHT = 8.8 PPG VISCOSITY = 31 SECONDS DRILLING WITH FLOWZAN MUD SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB

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TO HELP WITH THE TORQUE AND DRAG

Sundry Number: 59692 APT Well Number: 43047535080000 **US ROCKIES REGION Operation Summary Report** Spud date: 1/11/2014 Well: NBU 922-34J4CS GREEN Project: UTAH-UINTAH Site: NBU 922-34M PAD Rig name no.: SST 57/57, CAPSTAR 310/310 **Event: DRILLING** End date: 5/3/2014 Start date: 1/11/2014 UWI: SW/SW/0/9/S/22/E/34/0/0/26/PM/S/1203/W/0/497/0/0 Active datum: RKB @4,989.00usft (above Mean Sea P/U Date Time Duration Phase Code Sub MD from Operation Start-End (hr) Code (usft) 0:00 - 3:30 5/1/2014 3.50 **DRLPRV** 02 В Ρ 8669 DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE FROM / 8,669' TO / 8,806' = 137' @ 39' PER HOUR WEIGHT ON BIT = 18-24K STROKES PER MINUTE 1 PUMP @ 105 GALLONS PER MINUTE = 516 MUD MOTOR RPM = 72, TOP DRIVE RPM = 40-60, TOTAL RPM = 112-132 FT/LBS TORQUE = 18-21K STAND PIPE PRESSURE ON BOTTOM = 2,000 STAND PIPE PRESSURE OFF BOTTOM = 1,700 STRING WEIGHT UP/DOWN/ROTATING = 270K / 170K / 220K DRAG = 50K HOLE IN GOOD CONDITION SLIDE 0' & 0% OF FOOTAGE CURRENTLY 1.1' North & 5.1' East OF PLAN LINE BOS DE-WATERING - AS NEEDED **CENTRIFUGE - RUNNING CONVENTIONAL DE-SANDER - RUNNING** MUD WEIGHT = 8.8 PPG VISCOSITY = 31 SECONDS DRILLING WITH FLOWZAN MUD SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB MIXING SOME LCM AND TORQUE BUSTER TO HELP WITH THE TORQUE AND DRAG 3:30 - 6:00 2 50 **DRLPRV** 8806 03 Х \*\*\*TIGHT HOLE REAMED BACK AND FORTH WHILE MIXING LCM AND TORQUE BUSTER THINK THAT THE SLIDE BEFOR REAMING BEGAN WAS THE CAUSE OF EXCESS TORQUE AND DRAG WORKED STRING BACK TO DRILLING PERAMITERS

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RECEIVED: Jan. 07, 2015

AND PUT IT BACK ON DIG.

<u> Sundry Number: 59692 API Well Number: 43047535080000</u> **US ROCKIES REGION Operation Summary Report** Well: NBU 922-34J4CS GREEN Spud date: 1/11/2014 Project: UTAH-UINTAH Site: NBU 922-34M PAD Rig name no.: SST 57/57, CAPSTAR 310/310 **Event: DRILLING** End date: 5/3/2014 Start date: 1/11/2014 UWI: SW/SW/0/9/S/22/E/34/0/0/26/PM/S/1203/W/0/497/0/0 Active datum: RKB @4,989.00usft (above Mean Sea Date P/U Time Duration Phase Code Sub MD from Operation Start-End (hr) Code (usft) 6:00 - 14:30 8.50 **DRLPRV** 02 Ρ 8806 В DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE FROM / 8,806' TO / 9,317' = 511' @ 60' PER HOUR WEIGHT ON BIT = 18-24K STROKES PER MINUTE 1 PUMP @ 105 GALLONS PER MINUTE = 516 MUD MOTOR RPM = 72, TOP DRIVE RPM = 40-60, TOTAL RPM = 112-132 FT/LBS TORQUE = 18-21K STAND PIPE PRESSURE ON BOTTOM = 2,000 STAND PIPE PRESSURE OFF BOTTOM = 1,700 STRING WEIGHT UP/DOWN/ROTATING = 270K / 170K / 220K DRAG = 50K HOLE IN GOOD CONDITION SLIDE 0' & 0% OF FOOTAGE CURRENTLY 1.6' North & 3.1' East OF PLAN LINE **BOS DE-WATERING - AS NEEDED CENTRIFUGE - RUNNING CONVENTIONAL DE-SANDER - RUNNING** MUD WEIGHT = 8.8 PPG VISCOSITY = 31 SECONDS DRILLING WITH FLOWZAN MUD SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB MIXING SOME LCM AND TORQUE BUSTER TO HELP WITH THE TORQUE AND DRAG 14:30 - 15:00 0.50 **DRLPRV** 07 9317 RIG SERVICE. SERVICE TOP DRIVE, SERVICE DRAW WORKS, CHECK BRAKES AND ADJUST, SERVICE CROWN. 15:00 - 23:00 8.00 DRLPRV 02 9317 DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE FROM / 9,317' TO / 9,585' = 268' @ 33' PER HOUR WEIGHT ON BIT = 18-24K STROKES PER MINUTE 1 PUMP @ 105 GALLONS PER MINUTE = 516 MUD MOTOR RPM = 72 TOP DRIVE RPM = 40-60. TOTAL RPM = 112-132 FT/LBS TORQUE = 18-21K STAND PIPE PRESSURE ON BOTTOM = 2.000 STAND PIPE PRESSURE OFF BOTTOM = 1,700 STRING WEIGHT UP/DOWN/ROTATING = 280K / 170K / 230K DRAG = 50K HOLE IN GOOD CONDITION SLIDE 0' & 0% OF FOOTAGE CURRENTLY 1.6' North & 3.1' East OF PLAN LINE **BOS DE-WATERING - AS NEEDED CENTRIFUGE - RUNNING CONVENTIONAL DE-SANDER - RUNNING** MUD WEIGHT = 8.8 PPG VISCOSITY = 31 SECONDS DRILLING WITH FLOWZAN MUD SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB MIXING SOME LCM AND TORQUE BUSTER TO HELP WITH THE TORQUE AND DRAG

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<u> Sundry Number: 59692 API Well Number: 43047535080000</u> US ROCKIES REGION **Operation Summary Report** Well: NBU 922-34J4CS GREEN Spud date: 1/11/2014 Project: UTAH-UINTAH Site: NBU 922-34M PAD Rig name no.: SST 57/57, CAPSTAR 310/310 **Event: DRILLING** End date: 5/3/2014 Start date: 1/11/2014 UWI: SW/SW/0/9/S/22/E/34/0/0/26/PM/S/1203/W/0/497/0/0 Active datum: RKB @4,989.00usft (above Mean Sea Date P/U Time Duration Phase Code Sub MD from Operation Start-End (hr) Code (usft) 23:00 - 0:00 1.00 **DRLPRV** 05 Ρ 9585 С CONDITION MUD & CIRCULATE, WORKING DRILL STRING UP AND DOWN. MUD IN 12.0 PPG VISCOSITY=36, MUD OUT 12.0 PPG VISCOSITY=36. MUD COMING OVER SHAKERS IS CLEAN, CIRCULATE WITH NO GAINS AND NO LOSSES PUMPED 40 BBL CAL CARB SWEEPS WITH WALL NUT AND, MULTI SEAL, NO FLOW ON FLOW CHECKS 5/2/2014 0:00 - 0:30 0.50 **DRLPRV** 9585 CONDITION MUD & CIRCULATE, WORKING DRILL STRING UP AND DOWN. MUD IN 12.0 PPG VISCOSITY=36, MUD OUT 12.0 PPG VISCOSITY=36. MUD COMING OVER SHAKERS IS CLEAN, CIRCULATE WITH NO GAINS AND NO LOSSES PUMPED 40 BBL CAL CARB SWEEPS WITH WALL NUT AND, MULTI SEAL. NO FLOW ON FLOW CHECKS 0:30 - 3:30 3.00 DRLPRV 06 Ε 9585 15 STAND WIPER TRIP BACK TO 8,000', NO TIGHT HOLE, HOLE TOOK PROPER FILL WITH NO GAINS AND NO LOSSES NO FLOW ON FLOW CHECKS 3:30 - 5:30 2 00 C 9585 **DRLPRV** 05 CONDITION MUD & CIRCULATE, WORKING DRILL STRING UP AND DOWN, MUD IN 12.2 PPG VISCOSITY=36, MUD OUT 12.2 PPG VISCOSITY=36, MUD COMING OVER SHAKERS IS CLEAN, BUILD 40 BBL 14.2# DRY JOB CIRCULATE WITH NO GAINS AND NO LOSSES NO FLOW ON FLOW CHECKS 5:30 - 6:30 1.00 **DRLPRV** 9585 06 D PUMP 40 BBL DRY JOB, BLOW DOWN TOP DRIVE, TRIP OUT OF HOLE FOR CASING RUN, PUMP AND ROTATE 12 STANDS OFF BTM @ 320K, TIGHT HOLE @ 4,500', WASHED AND REAMED BACK THROUGH TIGHT HOLE HOLE TOOK PROPER FILL WITH NO GAINS NO NO FLOW ON FLOW CHECKS 6:30 - 7:30 1.00 **DRLPRV** Ζ 9585 \*\*\*FAILURE: RIG EQUIPMENT - (DRAWWORKS) REPLACE CHAIN IN DRAWWORKS 7:30 - 8:00 0.50 **DRLPRV** 07 Ρ 9585 Α RIG SERVICE. SERVICE TOP DRIVE, SERVICE DRAW WORKS, CHECK BRAKES AND ADJUST, SERVICE CROWN. 8:00 Р 9585 - 12:30 4 50 DRI PRV 06 D PUMP 40 BBL DRY JOB, BLOW DOWN TOP DRIVE, TRIP OUT OF HOLE FOR CASING RUN, PUMP AND ROTATE 12 STANDS OFF BTM @ 320K, TIGHT HOLE @ 4,500', WASHED AND REAMED BACK THROUGH TIGHT HOLE LAY DOWN DIRECTIONAL TOOLS, LAY DOWN MUD MOTOR, BIT,

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HOLE TOOK PROPER FILL WITH NO GAINS NO

NO FLOW ON FLOW CHECKS

LOSSES

<u> Sundry Number: 59692 API Well Number: 43047535080000</u> US ROCKIES REGION **Operation Summary Report** Well: NBU 922-34J4CS GREEN Spud date: 1/11/2014 Project: UTAH-UINTAH Site: NBU 922-34M PAD Rig name no.: SST 57/57, CAPSTAR 310/310 **Event: DRILLING** End date: 5/3/2014 Start date: 1/11/2014 UWI: SW/SW/0/9/S/22/E/34/0/0/26/PM/S/1203/W/0/497/0/0 Active datum: RKB @4,989.00usft (above Mean Sea Date P/U Time Duration Phase Code Sub MD from Operation Start-End (hr) Code (usft) 12:30 - 13:00 **DRLPRV** Ρ 9585 0.50 14 В **PULL WEAR BUSHING** 13:00 - 14:00 1.00 Р 9585 **CSGPRO** 12 Α HOLD SAFETY MEETING / RIG UP WYOMING CASING SERVICE CASING EQUIPMENT 14:00 - 20:00 6.00 **CSGPRO** 12 С Ρ 9585 WYOMING CASING SERVICE, (INSPECT FLOAT **FQUIPMENT**) RIG UP TORQUE TURN. PERFORM DUMP TEST. MAKE UP 4.5" K-55 LTC DRILLING & COMPLETION TECH. FLOAT SHOE ON SHOE JOINT WITH THREAD MAKE UP 4.5" K-55 FLOAT COLLAR WITH LOCK. THREAD LOCK ON TOP OF SHOE JOINT. RUN CENTRALIZERS ON FIRST 3 JOINTS AND **EVERY THIRD JOINT FOR TOTAL OF 15** CENTRALIZERS. BREAK CIRCULATION @ 50', 2,000', 5,000', 7,000'. NO PROBLEMS WITH FLOAT SHOE OR COLLAR. RUN A TOTAL OF 104 JOINTS OF 4 1/2", 11.6#. I-80, LT&C CASING + 2 MARKER JOINT MAKE UP DQX CROSS OVER JOINT AND, RUN A TOTAL OF 111 JOINTS OF 4 1/2", 11.6#, I-80/ DQX, CASING, + 1 CROSSOVER + 1 PUP JOINT RUN A TOTAL OF 219 JOINTS OF CASING TO **BOTTOM WITH NO PROBLEMS** FILL PIPE EVERY 2,000' DURRING CASING RUN SET FLOAT SHOE @ 9,571.28', SET TOP FLOAT COLLAR @ 9,524.05', SET TOP OF MESAVERDE MARKER JOINT @ 7,338.88' 20:00 - 21:30 1.50 **CSGPRO** 05 D Р 9585 CIRCULATE HOLE CLEAN HOLD SAFETY MEETING, RIG UP BAKER HUGHES CEMENTING EQUIPMENT 21:30 - 0:00 2.50 **CSGPRO** Ε Ρ 9585 12 HOLD SAFETY MEETING CEMENT WITH BAKER HUGHES TEST LINES TO 5,000 PSI, DROP BOTTOM PLUG, PUMP 25 BBLS H2O 8.3 PPG SPACER, USED 25% EXCESS CEMENT ON LEAD CEMENT MIX & PUMP 192.5 BBLS LEAD CEMENT 546 SACKS WITH CLASS G CEMENT, WITH PLII +6%GELL +5#skKS +.4%FL52 +.2%SMS +.4% R-3+5#/skSF + 1/4#skCF @ 12.5 PPG WITH 1.98 YIELD, USED 25% EXCESS CEMENT ON TAIL CEMENT MIX & PUMP 276 BBLS TAIL CEMENT 1,148 SACKS, WITH CLASS G CEMENT, WITH 50/50 poz+2%gell+0.55% R-3 + 10%salt+5#/blnd S.F. +.75%SMS @ 14.3 PPG WITH 1.34 YIELD, WASH UP LINES & DROP THE TOP PLUG DISPLACE WITH 148.1 BBLS H2O @ 8.3 PPG, WITH 6 GALLONS CLAY CARE, CLAY TREAT-2C FINAL LIFT PRESSURE PRIOR TO BUMPING PLUG 2.844 PSI BUMP PLUG WITH 3,420 PSI GOOD RETURNS THROUGHOUT JOB - 15 BBLS SPACER BACK TO SURFACE RIG DOWN CEMENTING EQUIPMENT TOP OF LEAD CEMENT@ 300', TOP OF TAIL CEMENT@ 4200'

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Operation Summary Report										
Well: NBU 922-	34J4CS (	GREEN						Spud date: 1/11	/2014	
Project: UTAH-L	roject: UTAH-UINTAH Site:								Rig name no.: SST 57/57, CAPSTAR 310/310	
Event: DRILLIN	G			Start date	ate: 1/11/2014				End date: 5/3/2014	
Active datum: R Level)	KB @4,9	89.00usft (a	oove Mean S	ea	UWI: SW/SW/0/9/S/22/E/34/0/0/26/PM/S/1203/W/0/497/0/0				03/W/0/497/0/0	
Date	S	Time tart-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation	
5/3/2014	0:00	- 1:00	1.00	CSGPRO	12	С	Р	9585	LAY DOWN LANDING JOINT / INSTALL & TEST PACK OFF 5000 PSI, 10 MINUTES	
	1:00	- 2:00	1.00	RDMO	14	Α	Р	9585	NIPPLE DOWN BOP'S / CLEAN MUD TANKS / RELEASE RIG @ 05/03/2014 02:00 HOURS	

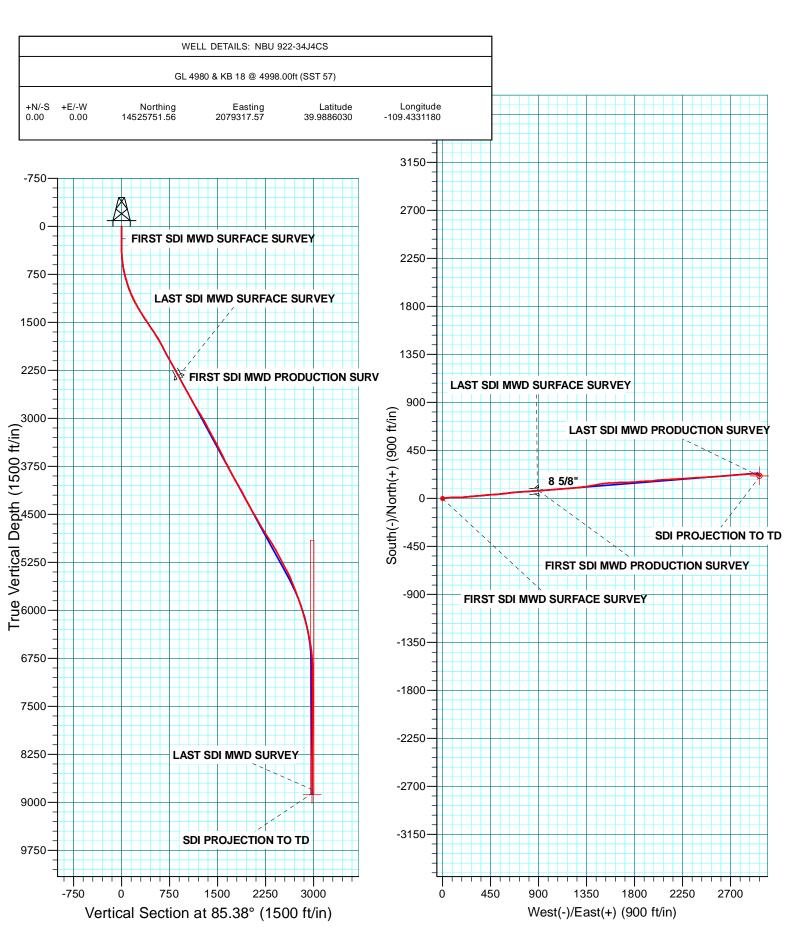
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Sundry Number: 59692 API Well Number: 43047535080000 Project: UTAH - UTM (feet), NAD27, Zone 12N Scientific Drilling

Site: NBU 922-34M PAD Well: NBU 922-34J4CS

Wellbore: OH







### **US ROCKIES REGION PLANNING**

UTAH - UTM (feet), NAD27, Zone 12N NBU 922-34M PAD NBU 922-34J4CS

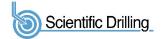
OH

Design: OH

### **Standard Survey Report**

05 May, 2014





#### **Scientific Drilling**

Survey Report



Company: US ROCKIES REGION PLANNING

 Project:
 UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 NBU 922-34M PAD

Well: NBU 922-34M PAI
Well: NBU 922-34J4CS

Wellbore: OH
Design: OH

Geo Datum: Map Zone:

Site

Local Co-ordinate Reference:

TVD Reference: GL 4980 & KB 18 @ 4998.00ft (SST 57)

MD Reference: GL 4980 & KB 18 @ 4998.00ft (SST 57)

Well NBU 922-34J4CS

North Reference: True

Survey Calculation Method: Minimum Curvature

Database: Denver Sales Office

Project UTAH - UTM (feet), NAD27, Zone 12N

Map System: Universal Transverse Mercator (US Survey Feet)

NAD 1927 (NADCON CONUS) Zone 12N (114 W to 108 W) System Datum: Mean Sea Level

NBU 922-34M PAD, SECTION 34 T9S R22E

Northing: 14,525,780.48 usft 39.9886820 Site Position: Latitude: From: Lat/Long Easting: 2,079,325.46 usft Longitude: -109.4330880 0.00 ft 1.01 ° **Position Uncertainty:** Slot Radius: 13.200 in **Grid Convergence:** 

Well	NBU 922-3	4J4CS				
Well Position	+N/-S	0.00 ft	Northing:	14,525,751.56 usft	Latitude:	39.9886030
	+E/-W	0.00 ft	Easting:	2,079,317.57 usft	Longitude:	-109.4331180
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	4,980.00 ft

Wellbore	ОН				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	3/26/2014	10.78	65.79	51,966

Design	ОН					
Audit Notes:						
Version:	1.0	Phase:	ACTUAL	Tie On Depth:		0.00
Vertical Section:		Depth From (TVD)	+N/-S	+E/-W	Direction	
		(ft)	(ft)	(ft)	(°)	
		0.00	0.00	0.00	85.38	

,	Survey Program	Dat	e 5/5/2014		
	From (ft)	To (ft) Surve	ey (Wellbore)	Tool Name	Description
	9.00 2,585.00	*	ey #1 SDI MWD SURFACE (OH) ey #2 SDI MWD PRODUCTION (OH)	MWD SDI SDI MWD	MWD - Standard ver 1.0.1 SDI MWD - Standard ver 1.0.1

Survey										
	Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	9.00	0.00	0.00	9.00	0.00	0.00	0.00	0.00	0.00	0.00
	196.00	0.97	199.07	195.99	-1.50	-0.52	-0.64	0.52	0.52	0.00
	FIRST SDI M	WD SURFACE S	SURVEY							
	257.00	0.53	169.72	256.99	-2.26	-0.64	-0.82	0.94	-0.72	-48.11
	348.00	1.32	69.61	347.98	-2.31	0.42	0.23	1.66	0.87	-110.01
	442.00	3.61	74.36	441.88	-1.14	4.29	4.18	2.44	2.44	5.05
	536.00	6.25	73.74	535.53	1.10	12.05	12.10	2.81	2.81	-0.66
	630.00	9.15	80.51	628.67	3.76	24.34	24.56	3.23	3.09	7.20
	723.00	12.58	86.66	719.99	5.57	41.75	42.06	3.89	3.69	6.61



### **Scientific Drilling**

Survey Report



Company: US ROCKIES REGION PLANNING

Project: UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 NBU 922-34M PAD

 Well:
 NBU 922-34J4CS

Wellbore: OH
Design: OH

Local Co-ordinate Reference:

TVD Reference: GL 4980 & KB 18 @ 4998.00ft (SST 57)

MD Reference: GL 4980 & KB 18 @ 4998.00ft (SST 57)

Well NBU 922-34J4CS

North Reference: Tru

Survey Calculation Method: Minimum Curvature

Database: Denver Sales Office

Measured Depth   Inclination   Azimuth   Vertical Depth   (tt)	rey									
Depth   Inclination   Azimuth   Depth   (ft)   (f	еу									
895.00 1723 85.86 886.09 8.50 86.15 86.56 2.46 2.46 989.00 20.05 89.38 975.15 9.68 116.16 116.56 3.23 3.00 1.083.00 23.22 89.81 1.062.52 9.91 150.81 151.12 3.38 3.23 3.00 1.083.00 29.28 84.10 1.282.42 14.99 232.29 232.75 3.51 3.35 - 1.268.00 29.28 84.10 1.282.42 14.99 232.29 232.75 3.51 3.35 - 1.362.00 31.26 84.28 1.309.60 19.78 279.43 280.12 2.11 2.11 1.455.00 31.30 86.04 13.89.08 23.86 327.54 328.40 0.98 0.44 1.455.00 31.30 86.04 13.89.08 23.86 327.54 328.40 0.98 0.44 1.549.00 34.18 85.31 1.545.20 38.00 39.37 44 35.2 29.37 54 328.40 0.98 0.44 1.738.00 34.05 84.17 1.468.20 28.22 378.09 379.14 3.12 2.93 - 1.642.00 34.18 85.31 1.645.20 33.00 430.03 431.29 0.70 0.14 1.738.00 33.38 86.14 1.624.99 36.98 483.26 484.66 0.96 0.83 1.833.00 23.72 83.14 1.783.21 46.22 584.28 586.10 4.46 4.35 - 2.020.00 28.07 82.06 1.865.51 52.06 629.32 631.47 1.84 - 1.76 2.207.00 28.17 82.06 1.865.51 52.06 629.32 631.47 1.84 - 1.76 2.207.00 28.14 87.00 2.030.37 60.52 71.71 57.21 672.88 675.30 1.22 0.17 2.207.00 28.14 87.00 2.030.37 60.52 71.71 57.99 1.26 0.00 29.55 86.48 2.115.33 63.19 763.87 766.47 1.48 1.45 - 2.397.00 28.23 84.45 1.947.51 57.21 672.88 675.30 1.22 0.17 2.207.00 28.14 87.00 2.030.37 60.52 71.71 57.19 69 1.26 0.033 - 2.24 2.25 5.00 28.57 8.64 8.27 1.30 8.29 8.5 8.5 3 2.340.27 71.75 887.86 890.76 0.83 0.33 - 2.402.00 28.55 86.43 2.279.61 60.39 855.06 857.87 0.90 - 0.94 2.261.00 28.58 8.5 3 2.340.27 71.75 887.86 890.76 0.83 0.33 - 2.451.00 28.87 8.467 2.444.81 77.02 944.47 947.61 0.32 0.32 0.33 - 2.451.00 28.58 8.5 3 2.361.33 72.76 899.31 902.25 1.45 0.33 0.33 - 2.451.00 28.58 8.5 3 2.361.33 72.76 899.31 902.25 1.45 0.38 0.33 - 2.444.81 77.02 944.47 947.61 0.32 0.02 0.03 0.33 0.33 0.33 0.33 0.33	Depth			Depth			Section	Rate	Rate	Turn Rate (°/100usft)
989.00 20.05 80.38 975.15 9.68 116.16 116.56 2.23 3.00 1.083.00 23.22 89.81 1.062.62 9.91 150.81 151.12 3.38 3.37 1.776.00 26.20 86.21 1,147.00 11.33 188.64 188.94 3.59 3.20 - 1.268.00 29.28 84.10 1,228.42 14.99 232.29 232.75 3.51 3.35 - 1.362.00 31.26 84.28 1,309.60 19.76 279.43 280.12 2.11 2.11 1.455.00 31.30 86.04 1,389.08 23.86 327.54 326.40 0.98 0.04 1.549.00 34.05 84.17 1,468.20 28.22 378.09 379.14 3.12 2.93 - 1.642.00 34.18 85.31 1,545.20 38.02 38.0 327.54 326.40 0.98 0.04 1.549.00 34.05 84.17 1,468.20 28.22 378.09 379.14 3.12 2.93 - 1.642.00 34.18 85.31 1,545.20 33.00 449.03 441.29 0.70 0.14 1.738.00 33.38 86.14 1,624.99 36.98 483.26 484.66 0.96 0.83 1.33 1.33 86.14 1,624.99 36.98 483.26 484.66 0.96 0.83 1.33 1.33 1.34 1.34 1.34 1.34 1.34 1.3	817.00	15.31	86.22	811.22	6.99	64.35	64.71	2.91	2.90	-0.47
1,083.00 23.22 88.81 1,082.62 9.91 150.81 151.12 3.38 3.37 1.76.00 26.2 86.21 1,147.00 11.33 189.64 189.94 3.59 3.20 - 1.268.00 28.28 84.10 1,228.42 14.99 232.29 232.75 3.51 3.55 - 2.268.00 31.26 84.28 1,309.60 19.78 279.43 280.12 2.11 2.11 1.45.50 31.30 86.04 1,389.06 23.86 327.54 328.40 0.98 0.04 1.559.00 34.05 84.17 1,468.20 23.28 23.27 376.09 379.14 312 2.93 - 1.462.00 34.18 85.31 1,545.20 33.00 430.03 431.20 0.00 0.14 1.738.00 33.38 86.14 1,624.99 33.00 430.03 431.29 0.70 0.14 1.738.00 33.38 86.14 1,624.99 36.98 483.26 484.66 0.96 0.98 0.04 1.738.00 33.38 86.14 1,624.99 36.98 483.26 484.66 0.96 0.98 0.04 1.260.00 1.260.0	895.00	17.23	85.86	886.09	8.50	86.15	86.56	2.46	2.46	-0.46
1,176.00 26.20 86.21 1,147.00 11.33 189.64 188.94 3.59 3.20 - 1,268.00 29.28 84.10 1,228.42 14.99 232.29 232.75 3.51 3.50 - 1,362.00 31.26 84.28 1,309.60 19.78 279.43 280.12 2.11 2.11 1.455.00 31.30 86.04 1,389.08 23.86 327.54 328.40 0.98 0.04 1.545.00 31.20 34.05 84.17 1.468.20 28.22 378.09 379.14 3.12 2.83 - 1,642.00 34.18 65.31 1,545.20 33.00 49.00 430.03 491.29 0.70 0.14 1.738.00 33.38 86.14 1,624.99 36.98 483.26 484.66 0.96 -0.83 1.833.00 29.72 83.14 1,704.14 41.13 535.63 537.20 0.88 0.41 1.926.00 29.72 83.14 1,783.21 46.22 584.28 586.10 4.46 -4.35 -2.00 20.00 29.72 83.14 1,783.21 46.22 584.28 586.10 4.46 -4.35 -2.00 20.00 28.07 82.06 1.865.51 52.06 62.93 2631.47 1.84 -1.76 -2.113.00 28.23 84.45 1.947.51 57.21 672.88 675.30 1.22 0.17 2.207.00 28.14 87.00 2.030.37 60.52 717.85 77.96 1.28 -0.10 2.334.00 29.25 86.48 2.215.33 63.19 763.87 766.47 1.48 1.45 -2.397.00 29.24 85.77 2.196.36 66.27 809.41 812.12 0.50 -0.33 -2.492.00 28.55 86.43 2.279.61 69.39 855.06 857.87 0.99 -0.94 2.55 10.0 28.58 85.33 2.340.27 71.75 887.66 890.76 0.83 0.33 -2.25 1.45 0.38 -2.25 1.45 0.38 -2.25 1.45 0.38 -2.25 1.45 0.38 -2.25 1.45 0.38 -2.25 1.45 0.38 -2.25 1.45 0.38 -2.25 1.45 0.38 0.39 1.25 0.33 0.33 -2.25 1.45 0.38 0.39 1.25 0.33 0.33 0.33 0.33 0.33 0.34 0.35 0.37 1.38 1.38 0.37 0.36 0.37 1.38 0.00 9.99.70 9.02.25 1.45 0.38 0.33 0.33 0.35 0.33 0.33 0.35 0.33 0.33	989.00		89.38	975.15		116.16	116.56	3.23	3.00	3.74
1,268.00 29.28 84.10 1,228.42 14.99 232.29 232.75 3.51 3.35 -  1,362.00 31.26 84.28 1,309.60 19.78 279.43 280.12 2.11 2.11 1.455.00 31.30 86.04 1,389.08 23.86 327.54 328.40 0.98 0.04 1.549.00 34.05 84.17 1.468.20 28.22 378.09 379.14 3.12 2.93 -  1,642.00 34.18 85.31 1,545.20 33.00 430.03 431.29 0.70 0.14 1.738.00 33.38 86.14 1,624.99 36.98 483.26 484.66 0.96 -0.83 1.738.00 29.72 83.14 1,764.14 41.13 535.63 537.20 0.88 0.41 1.926.00 29.72 83.14 1,768.21 46.22 564.28 566.10 4.46 4.35 -  2,020.00 28.07 82.06 1,865.51 52.06 62.92 631.47 1.84 -1.76 -  2,113.00 28.23 84.45 1,947.51 572.1 672.88 675.30 1.22 0.17 2.207.00 28.14 87.00 2,030.37 60.52 717.15 719.69 1.28 -0.10 1.2 2.07.00 29.24 85.77 2,196.36 66.27 809.41 812.12 0.50 -0.33 -  2,492.00 28.55 86.48 2,115.33 63.19 763.87 766.47 1.48 1.45 -  2,397.00 29.24 85.77 2,196.36 66.27 809.41 812.12 0.50 -0.33 -  2,492.00 28.55 86.48 2,279.61 69.39 855.06 857.87 0.99 -0.94 2.561.00 28.58 8533 2,340.27 71.75 887.86 890.76 0.83 0.33 -  FIRST SDI MWD SURFACE SURVEY 2.565.00 28.67 84.63 2.367.48 73.07 902.66 905.61 0.32 -0.32 -  2,680.00 28.37 84.63 2.367.48 73.07 902.66 905.61 0.32 -0.32 -  2,680.00 28.87 84.63 2.367.48 73.07 902.66 905.61 0.32 -0.32 -  2,694.00 28.19 84.80 2.693.67 87.29 1,080.91 1,084.43 0.88 -0.62 -  2,694.00 28.19 84.80 2.693.67 87.29 1,080.91 1,084.43 0.88 -0.62 -  3,059.00 30.49 86.64 2.776.48 90.73 1,127.32 1,130.97 2.60 2.42 3,154.00 31.04 84.06 2,937.88 97.98 1,225.22 1,279.10 0.00 -0.46 3,343.00 30.00 84.77 3,019.56 10.272 1,273.66 1,277.79 0.60 -0.46 3,343.00 30.60 84.77 3,019.56 10.272 1,273.66 1,277.79 0.60 -0.46 3,343.00 30.60 84.77 3,019.56 10.272 1,273.66 1,277.79 0.60 -0.46 3,343.00 30.60 84.77 3,019.56 10.272 1,273.66 1,277.79 0.60 -0.46 3,343.00 30.60 84.77 3,019.56 10.272 1,273.66 1,277.79 0.60 -0.46 3,343.00 30.60 84.77 3,019.56 10.272 1,273.66 1,277.79 0.60 -0.46 3,343.00 30.60 84.77 3,019.56 10.272 1,273.66 1,277.79 0.60 -0.46 3,343.60 2.805 80.98 3,710.63 10.783 11.480 1,359.84 1,73 1.160 1.373 1.160 1.373 1.160 1.373 1.160 1.373 1	1,083.00	23.22	89.81	1,062.52	9.91	150.81	151.12	3.38	3.37	0.46
1,382,00 31,26 84,28 1,309,60 19,78 279,43 280,12 2.11 2.11 1,455,00 31,30 86,04 1,389,08 23,86 327,54 328,40 0,98 0.04 1,549,00 34,015 84,17 1,468,20 28,22 378,09 379,14 3,12 2.93 - 1,642,00 34,18 85,31 1,545,20 33,00 430,03 431,29 0.70 0.14 1,738,00 33,38 86,14 1,624,99 36,98 483,26 484,66 0,96 0.83  1,833,00 33,37 84,81 1,704,14 41,13 535,63 537,20 0.88 0.41 - 1,926,00 29,72 83,14 1,783,21 46,22 584,28 586,10 4,46 4,35 - 2,020,00 28,07 82,06 1,865,51 52,06 629,32 631,47 1,84 -1,76 - 2,113,00 28,23 84,45 1,947,51 57,21 672,88 675,30 1,22 0.17 2,207,00 28,14 87,00 2,030,37 60,52 717,15 719,69 1,28 -0.10  2,304,00 29,55 86,48 2,115,33 63,19 763,87 766,47 1,48 1,45 - 2,397,00 29,24 85,77 2,196,36 66,27 809,41 812,12 0,50 -0.33 - 2,492,00 28,35 86,43 2,279,61 69,39 855,06 857,87 0,99 -0.94 2,561,00 28,58 85,33 2,340,27 71,75 887,86 890,76 0.83 0,33 -  LAST SOI MWO SURFACE SURVEY 2,582,00 28,65 84,63 2,361,33 72,76 899,31 902,25 1,45 0,38 -  FIRST SOI MWO PRODUCTION SURVEY  2,592,00 28,65 84,63 2,367,48 73,07 902,66 905,61 0,32 -0.32 - 2,774,00 29,35 86,35 2,527,13 80,60 989,70 992,97 1,39 1,04 2,869,00 28,78 86,03 2,610,17 83,67 1,035,75 1,039,12 0,62 -0.60 - 2,664,00 28,19 84,80 2,693,67 87,29 1,080,91 1,084,43 0,88 -0.62 - 2,640,00 28,19 84,80 2,693,67 87,29 1,080,91 1,084,43 0,88 -0.62 - 3,059,00 30,49 86,64 2,776,48 90,73 1,127,32 1,130,97 2,60 2,42 3,154,00 31,04 84,06 2,397,89 79,99 1,259 1,30 1,04 -0.84 3,438,00 30,60 84,77 3,019,66 10,72 1,176,38 1,180,11 1,43 1,41 - 3,248,00 31,04 84,06 2,937,89 79,99 1,252,22 1,279 0,60 -0.46 3,438,00 27,44 82,39 3,102,63 107,83 1,176,38 1,180,11 1,43 1,41 - 4,008,00 26,56 87,67 3,606,33 144,90 1,583,31 1,589,84 1,73 -1.55 4,103,00 27,44 86,79 3,376,49 151,52 1,667,57 1,642,86 222 1,67	1,176.00	26.20	86.21	1,147.00	11.33	189.64	189.94	3.59	3.20	-3.87
1,455.00 31.30 86.04 1,389.08 23.86 327.54 328.40 0.98 0.04 1,549.00 34.15 84.17 1,468.20 28.22 378.09 379.14 3.12 2.93 - 1,642.00 34.18 85.31 1,545.20 33.00 430.03 491.29 0.70 0.14 1,738.00 33.38 86.14 1,624.99 36.98 483.26 484.66 0.96 -0.83 1,738.00 33.38 86.14 1,624.99 36.98 483.26 484.66 0.96 -0.83 1,738.00 29.72 83.14 1,764.14 41.13 535.63 537.20 0.88 0.41 -1,926.00 2.972 83.14 1,763.21 46.22 594.28 586.10 4.46 4.3.5 - 2,020.00 28.07 82.06 1.865.51 52.06 629.32 631.47 1.84 -1.76 -2,113.00 28.23 84.45 1,947.51 57.21 672.88 675.30 1.22 0.17 2,207.00 28.14 87.00 2,030.37 60.52 717.15 719.69 1.28 0.10 -1.28 0.10 2.304.00 29.55 86.48 2,115.33 63.19 763.87 766.47 1.48 1.45 - 2,397.00 29.24 85.77 2,196.36 66.27 809.41 812.12 0.50 -0.33 - 2,492.00 2.8.58 86.33 2,340.27 71.75 887.86 890.76 0.83 0.33 - 2,492.00 2.8.58 86.33 2,340.27 71.75 887.86 890.76 0.83 0.33 - 2,581.00 28.58 85.33 2,340.27 71.75 887.86 890.76 0.83 0.33 - 2,581.00 28.58 86.33 2,340.27 71.75 887.86 890.76 0.83 0.33 - 2,581.00 28.58 86.33 2,340.27 71.75 887.86 890.76 0.83 0.33 - 2,581.00 28.58 86.33 2,340.27 71.75 887.86 890.76 0.83 0.33 - 2,581.00 28.58 86.33 2,340.27 71.75 887.86 890.76 0.83 0.33 - 2,581.00 28.58 86.33 2,340.27 71.75 887.86 890.76 0.83 0.33 - 2,581.00 28.58 86.35 2,361.33 72.76 899.31 902.25 1.45 0.32 -0.32 - 2,581.00 28.58 86.35 2,361.33 72.76 899.31 902.25 1.45 0.32 -0.32 - 2,581.00 28.59 86.35 2,587.13 80.60 989.70 992.97 1.39 1.04 2,889.00 28.78 86.03 2.510.17 83.67 1.035.75 1.039.12 0.62 -0.00 - 2,964.00 28.19 84.80 2,593.67 87.29 1.000.91 1.004.43 0.88 -0.62 - 3,000.00 28.79 86.64 2,776.48 90.73 1.127.32 1.130.91 2.062 -0.00 - 2,964.00 28.19 84.80 2,593.69 1.000.91 1.004.43 0.88 -0.62 - 3,000.00 28.74 82.39 3.102.63 10.78 1.127.32 1.130.91 2.062 -0.00 - 2,964.00 28.19 84.80 2,593.69 10.72 1.176.38 1.180.11 1.43 1.44 -0.44 1.3248.00 31.04 84.06 2.337.98 97.98 1.225.22 1.225.13 1.44 -0.94 1.3343.00 3.060 84.77 3.019.56 10.02 1.272 1.273.66 1.277.79 0.60 0.46 3.348.00 27.44 82.39 3.102.63 10.78 3.139.45 1.353.31 1.589.84 1.73	1,268.00	29.28	84.10	1,228.42	14.99	232.29	232.75	3.51	3.35	-2.29
1,549.00 34.05 84.17 1,468.20 28.22 378.09 379.14 3.12 2.93 - 1,642.00 34.18 85.31 1,545.20 33.00 430.03 431.29 0.70 0.14 1,738.00 33.38 86.14 1,624.99 36.99 483.26 484.66 0.96 -0.96 -0.83 1,833.00 33.77 84.81 1,704.14 41.13 535.63 537.20 0.88 0.41 - 1,926.00 29.72 83.14 1,783.21 46.22 584.28 586.10 4.46 -4.35 - 2,020.00 28.07 82.06 1,865.51 52.06 629.32 631.47 1,84 -1.76 - 2,113.00 28.23 84.45 1,947.51 57.21 672.88 676.30 1,22 0.17 1,2207.00 28.14 87.00 2,030.37 60.52 717.15 719.69 1,28 -0.10 1,22 0.17 1,2207.00 28.14 87.00 2,030.37 60.52 717.15 719.69 1,28 -0.10 1,22 0.17 1,2207.00 28.14 87.00 2,030.37 60.52 717.15 719.69 1,28 -0.10 1,2304.00 29.55 86.48 2,115.33 63.19 763.87 766.47 1,48 1,45 - 2,397.00 29.24 85.77 2,196.36 66.27 809.41 812.12 0.50 -0.33 - 2,492.00 28.35 86.43 2,279.61 69.39 855.06 857.87 0.99 -0.94 2,561.00 28.58 85.33 2,340.27 71.75 887.86 890.76 0.83 0.33 -  LAST BOI MWD SURFACE SURVEY 2,595.00 28.67 84.63 2,361.33 72.76 899.31 902.25 1,45 0.38 -  FIRST SDI MWD PRODUCTION SURVEY 2,595.00 28.67 84.63 2,361.33 72.76 899.31 902.25 1,45 0.32 -0.32 - 2,774.00 29.35 86.35 2,527.13 80.60 989.70 992.97 1,39 1,04 2,869.00 28.78 86.03 2,810.17 83.67 1,035.75 1,039.12 0.62 -0.60 - 2,964.00 28.19 84.80 2,693.67 87.29 1,080.91 1,084.43 0.88 -0.62 - 2,964.00 28.19 84.80 2,693.67 87.29 1,080.91 1,084.43 0.88 -0.62 - 3,059.00 30.49 86.64 2,776.48 90.73 1,127.32 1,130.97 2.60 2.42 3,154.00 31.83 86.17 2,857.77 93.82 1,176.38 1,180.11 1.43 1,41 - 3,248.00 31.04 84.06 2,237.98 97.99 1,225.22 1,229.13 1,44 -0.84 - 3,343.00 30.40 86.64 2,776.48 90.73 1,127.32 1,130.97 2.60 2.42 3,154.00 31.83 86.17 2,857.77 93.82 1,176.38 1,180.11 1.43 1,41 - 3,248.00 31.04 84.06 2,237.99.39 97.99 1,225.22 1,229.13 1,44 -0.84 - 3,343.00 30.60 84.77 3,019.56 102.72 1,273.66 10.77 90.00 -0.46 3,438.00 27.44 82.39 3,102.63 107.83 1,319.45 1,323.84 3.54 -3.33 - 3,533.00 28.05 80.28 3,186.70 114.50 1,363.31 1,589.84 1,73 -1.60 0.32 -0.75 -0.75 -0.75 -0.75 -0.75 -0.75 -0.75 -0.75 -0.75 -0.75 -0.75 -0.75 -0.75 -0.75 -0.75 -0.75 -0.75	1,362.00	31.26	84.28	1,309.60	19.78	279.43	280.12	2.11	2.11	0.19
1,642,00 34,18 85,31 1,545,20 33,00 430,03 431,29 0,70 0,14 1,736,00 33,38 66,14 1,624,99 36,98 483,26 484,66 0,96 0,83   1,833,00 33,37 84,81 1,704,14 41,13 535,63 537,20 0,88 0,41 - 1,926,00 29,72 83,14 1,783,21 46,22 584,26 586,10 4,46 4,435 - 2,020,00 28,07 82,06 1,865,51 52,06 629,32 631,47 1,84 -1,76 - 2,113,00 28,23 84,45 1,947,51 57,21 672,88 676,30 1,22 0,17 2,207,00 28,14 87,00 2,030,37 60,52 717,15 719,99 1,28 -0,10   2,304,00 29,55 86,48 2,115,33 63,19 763,87 766,47 1,48 1,45 - 2,397,00 29,24 85,77 2,196,36 66,27 809,41 812,12 0,50 -0,33 - 2,492,00 28,35 86,43 2,279,61 69,39 855,06 857,87 0,99 -0,94 2,561,00 28,58 85,33 2,340,27 71,75 887,86 890,76 0,83 0,33 - 2,561,00 28,58 85,33 2,340,27 71,75 887,86 890,76 0,83 0,33 - 2,555,00 28,67 84,63 2,361,33 72,76 899,31 902,25 1,45 0,38 - FIRST SDI MWD PRODUCTION SURVEY  2,592,00 28,65 84,63 2,361,33 72,76 899,31 902,25 1,45 0,38 - 5,680,00 28,37 84,57 2,444,81 77,02 944,47 947,61 0,32 -0,32 - 2,774,00 29,35 86,35 2,527,13 80,60 998,70 992,97 1,39 1,04 2,869,00 28,78 86,03 2,610,17 83,67 1,035,75 1,039,12 0,62 -0,60 - 2,964,00 28,19 84,80 2,693,69 87,29 1,080,91 1,084,43 0,88 -0,62 - 2,640,00 31,04 84,06 2,937,98 1,25 2,176,88 1,173,34 1,44 -0,84 -3,343,00 3,06 84,77 3,019,56 10,272 1,277,68 1,130,97 2,60 2,42 3,154,00 31,83 86,17 2,857,77 93,82 1,176,38 1,180,11 1,43 1,41 - 3,248,00 27,44 82,39 3,102,63 107,83 1,180,11 1,43 3,44 -0,84 -3,343,00 3,06 84,77 3,019,56 10,272 1,273,66 1,272,79 3,00 -0,46 3,438,00 27,44 82,39 3,102,63 107,83 1,319,45 1,323,84 3,54 -3,33 -1,60 3,912,00 28,56 87,67 3,33 3,019,56 10,272 1,273,66 1,277,79 3,00 -0,46 3,438,00 27,44 82,39 3,102,63 107,83 1,319,45 1,323,84 3,54 -3,33 -1,60 3,912,00 28,56 87,67 3,366,33 1,44,90 1,583,31 1,589,84 1,73 1,160 3,419,00 28,56 87,67 3,366,33 1,44,90 1,583,31 1,589,84 1,73 1,160 3,419,00 28,56 87,67 3,367,64 515,52 1,6757 1,674,36 2,22 1,67	1,455.00	31.30	86.04	1,389.08	23.86	327.54	328.40	0.98	0.04	1.89
1,738.00 33.38 86.14 1,624.99 36.98 483.26 484.66 0.96 -0.83  1,833.00 33.77 84.81 1,704.14 41.13 535.63 537.20 0.88 0.41 -1.926.00 28.77 82.06 1,783.21 46.22 584.28 586.10 4.46 4.35 -2.020.00 28.07 82.06 1,865.51 52.06 629.32 631.47 1.84 -1.76 -2.113.00 28.23 84.45 1,947.51 57.21 672.88 675.30 1.22 0.17 2.207.00 28.14 87.00 2,030.37 60.52 717.15 719.69 1.28 -0.10  2,304.00 29.55 86.48 2,115.33 63.19 763.87 766.47 1.48 1.45 -2.397.00 29.24 85.77 2,196.36 66.27 809.41 812.12 0.50 -0.33 -2.492.00 28.35 86.43 2.279.61 69.99 855.06 857.87 0.99 -0.94 2.561.00 28.58 85.33 2.340.27 71.75 887.86 890.76 0.83 0.33 -2.492.00 28.56 86.86 32 2.396.33 72.76 899.31 902.25 1.45 0.38 -2.296.00 28.67 84.63 2.361.33 72.76 899.31 902.25 1.45 0.38 -2.296.00 28.67 84.63 2.361.33 72.76 899.31 902.25 1.45 0.38 -2.296.00 28.66 84.63 2.361.33 72.76 899.31 902.25 1.45 0.32 -3.296.00 28.58 86.33 2.340.27 71.75 887.86 890.76 0.83 0.33 -2.296.00 28.67 84.63 2.361.33 72.76 899.31 902.25 1.45 0.38 -2.296.00 28.67 84.63 2.361.33 72.76 899.31 902.25 1.45 0.38 -2.296.00 28.67 84.63 2.361.33 72.76 899.31 902.25 1.45 0.38 -2.296.00 28.86 84.63 2.361.33 72.76 899.31 902.25 1.45 0.38 -2.296.00 28.86 84.63 2.361.33 72.76 899.31 902.25 1.45 0.38 -2.296.00 28.86 84.63 2.361.33 72.76 899.31 902.25 1.45 0.32 -3.296.00 28.86 84.63 2.361.33 72.76 899.31 902.25 1.45 0.38 -2.296.00 28.86 84.63 2.361.33 72.76 899.31 902.25 1.45 0.32 -3.296.00 28.78 86.03 2.361.37 83.67 1.035.75 1.039.12 0.62 0.60 -2.296.00 28.78 86.03 2.501.77 83.67 1.035.75 1.039.12 0.62 0.60 -2.296.00 28.78 86.03 2.501.77 83.67 1.050.91 1.084.43 0.88 -0.62 -3.296.00 28.78 86.03 2.590.77 93.82 1.176.38 1.180.11 1.43 1.41 -3.248.00 31.04 84.06 2.937.99 97.99 1.225 1.229.13 1.44 0.84 -3.333.00 30.60 84.77 3.019.56 102.72 1.273.66 1.277.79 0.60 0.46 3.338.00 27.44 82.39 3.102.63 107.83 1.319.45 1.323.84 3.54 3.33 -3.330.0 28.55 80.28 3.186.70 114.50 1.363.16 1.367.95 1.22 0.64 -3.232.00 28.52 79.93 3.353.60 130.44 1.42.99 1.589.34 1.545.82 2.63 1.12 4.080.00 28.82 79.93 3.353.60 130.44 1.42.99	1,549.00	34.05	84.17	1,468.20	28.22	378.09	379.14	3.12	2.93	-1.99
1,833.00 33.77 84.81 1,704.14 41.13 535.63 537.20 0.88 0.41 - 1,926.00 29.72 83.14 1,783.21 46.22 584.28 586.10 4.46 4.35 - 2,020.00 28.07 82.06 1,885.51 52.06 629.32 631.47 1.84 1.76 - 2,113.00 28.23 84.45 1,947.51 57.21 672.88 675.30 1.22 0.17 2,207.00 28.14 87.00 2,030.37 60.52 717.15 719.69 1.28 -0.10 2,030.37 60.52 717.15 719.69 1.28 -0.10 2,304.00 29.55 86.48 2,115.33 63.19 763.87 766.47 1.48 1.45 - 2,397.00 29.24 85.77 2,196.36 66.27 809.41 812.12 0.50 -0.33 - 2,492.00 28.35 86.43 2,279.61 69.39 855.06 857.87 0.99 -0.94 2,561.00 28.58 85.33 2,340.27 71.75 887.86 890.76 0.83 0.33 - 2,492.00 28.67 84.63 2,361.33 72.76 899.31 902.25 1.45 0.38 - FIRST SDI MWD SURFACE SURVEY 2,595.00 28.65 84.63 2,361.33 72.76 899.31 902.25 1.45 0.38 - 85.00 28.59 84.63 2,361.33 72.76 899.31 902.25 1.45 0.38 - 85.00 28.67 84.69 2,361.33 72.76 899.31 902.25 1.45 0.38 - 85.00 28.67 84.69 2,361.39 86.00 28.37 84.67 2,444.81 77.02 944.47 947.61 0.32 -0.32 - 2.2774.00 29.35 86.35 2,527.13 80.60 989.70 992.97 1.39 1.04 2.899.00 28.78 86.03 2,610.17 83.67 1,035.75 1,039.12 0.62 -0.60 - 2,964.00 28.19 84.80 2,693.67 87.29 1,080.91 1,084.43 0.88 -0.62 - 3.059.00 30.49 86.64 2,776.48 90.73 1,127.32 1,130.97 2.60 2.42 3,154.00 31.83 86.17 2,587.77 93.82 1,176.38 1,180.11 1.43 1.41 - 3,244.00 31.04 84.06 2,937.98 97.99 87 1,22 0.62 -0.60 - 2,964.00 31.83 86.17 2,587.77 93.82 1,176.38 1,180.11 1.43 1.41 - 3,244.00 31.04 84.06 2,937.99 97.99 98.1 1,22 0.62 -0.60 - 4,24 3,154.00 31.03 86.17 2,587.77 93.82 1,176.38 1,180.11 1.43 1.41 - 3,244.00 31.04 84.06 2,937.99 97.99 1.27 1.39 1.04 1.40 84.06 2,937.99 97.99 1.20 88.8 88.1 - 3,233.00 3.60 84.77 3,019.56 102.72 1,273.66 1,277.79 0.60 -0.46 3,233.00 3.60 84.77 3,019.56 102.72 1,273.66 1,277.79 0.60 -0.46 3,233.00 3.60 84.77 3,019.56 102.72 1,273.66 1,277.79 0.60 -0.46 3,233.00 28.52 79.93 3,353.60 130.48 1,452.52 1,229.13 1,40.70 1,412.98 8.88 0.81 - 3,233.00 28.52 79.93 3,353.60 130.48 1,452.52 1,229.34 1,553.44 3.54 - 3.33 - 1.60 3,212.00 28.05 86.09 3,521.03 142.99 1,507.50 1,503.31 1,58	1,642.00	34.18	85.31	1,545.20	33.00	430.03	431.29	0.70	0.14	1.23
1,926.00 29.72 83.14 1,783.21 46.22 584.28 586.10 4.46 -4.35 -2.020.00 28.07 82.06 1,865.51 52.06 629.32 631.47 1.84 -1.76 -2.113.00 28.23 84.45 1.947.51 57.21 672.88 675.30 1.22 0.17 -2.207.00 28.14 87.00 2,030.37 60.52 717.15 719.69 1.28 -0.10 -2.207.00 28.14 87.00 2,030.37 60.52 717.15 719.69 1.28 -0.10 -2.304.00 29.55 86.48 2,115.33 63.19 763.87 766.47 1.48 1.45 -2.397.00 29.24 85.77 2,196.36 66.27 809.41 812.12 0.50 -0.33 -2.492.00 28.55 86.43 2,279.61 69.39 855.06 857.87 0.99 -0.94 2,561.00 28.58 85.33 2,340.27 71.75 887.86 890.76 0.83 0.33 -2.551.00 28.58 85.33 2,340.27 71.75 887.86 890.76 0.83 0.33 -2.551.00 28.58 85.33 2,340.27 71.75 887.86 890.76 0.83 0.33 -3.555.00 28.67 84.63 2,361.33 72.76 899.31 902.25 1.45 0.38 -555.00 28.67 84.63 2,361.33 72.76 899.31 902.25 1.45 0.38 -555.00 28.67 84.63 2,361.33 72.76 899.31 902.25 1.45 0.32 -3.555.00 28.67 84.63 2,361.33 72.76 899.31 902.25 1.45 0.32 -0.32 -3.555.00 28.67 84.63 2,361.33 72.76 899.31 902.25 1.45 0.32 -0.32 -3.555.00 28.67 84.63 2,361.33 72.76 899.31 902.25 1.45 0.32 -0.32 -3.555.00 28.67 84.63 2,361.33 72.76 899.31 902.25 1.45 0.32 -0.32 -3.555.00 28.67 84.63 2,361.37 89.80 99.70 902.66 905.61 0.32 -0.32 -3.555.00 28.67 84.63 2,361.37 80.60 989.70 902.97 1.39 1.04 2.869.00 28.78 86.03 2,610.17 83.67 1.035.75 1.039.12 0.62 0.060 -2.2964.00 28.19 84.80 2,693.67 87.29 1.080.91 1.084.43 0.88 -0.62 -3.355.00 28.78 86.03 2,610.17 83.67 1.035.75 1.039.12 0.62 0.060 -3.2964.00 31.83 86.17 2,887.77 93.82 1.176.38 1.180.11 1.43 1.41 -3.24 1.41 0.32 1.44 0.84 0.32 1.44 0.38 0.31 0.34 84.06 2.937.98 97.99 1.25.25 1.22 1.291.3 1.44 0.08 0.34 1.44 0.08 0.274 4 82.39 3.102.63 107.83 1.319.45 1.323.84 3.54 -3.33 -3.33 0.343.00 30.60 84.77 3.019.56 102.72 1.273.66 1.277.79 0.60 0.04 0.34 3.330.0 28.05 80.28 3.186.70 114.50 1.363.16 1.367.95 1.22 0.64 -3.353.00 28.65 80.28 3.186.70 114.50 1.363.16 1.367.95 1.22 0.64 -3.353.00 28.65 80.28 3.186.70 114.50 1.363.16 1.367.95 1.22 0.64 -3.353.00 28.65 80.28 3.186.70 114.50 1.363.11 1.362.24 1.473 1.40 0.84 -3.353.00	1,738.00	33.38	86.14	1,624.99	36.98	483.26	484.66	0.96	-0.83	0.86
2,020,00	1,833.00	33.77	84.81	1,704.14	41.13	535.63	537.20	0.88	0.41	-1.40
2,113.00 28.23 84.45 1,947.51 57.21 672.88 675.30 1.22 0.17 2,207.00 28.14 87.00 2,030.37 60.52 717.15 719.69 1.28 -0.10  2,304.00 29.55 86.48 2,115.33 63.19 763.87 766.47 1.48 1.45 - 2,397.00 29.24 85.77 2,196.36 66.27 809.41 812.12 0.50 -0.33 - 2,492.00 28.35 86.43 2,279.61 69.39 855.06 857.87 0.99 -0.94 2,561.00 28.58 85.33 2,340.27 71.75 887.86 890.76 0.83 0.33 -  LAST SDI MWD SURFACE SURVEY 2,585.00 28.67 84.63 2,361.33 72.76 899.31 902.25 1.45 0.38 -  FIRST SDI MWD PRODUCTION SURVEY 2,592.00 28.65 84.63 2,367.48 73.07 902.66 905.61 0.32 -0.32 -  8 5/8" 2,680.00 28.37 84.57 2,444.81 77.02 944.47 947.61 0.32 -0.32 - 2,774.00 29.35 86.35 2,527.13 80.60 989.70 992.97 1.39 1.04 2,869.00 28.78 86.03 2,610.17 83.67 1,035.75 1,039.12 0.62 -0.60 - 2,964.00 28.19 84.80 2,693.67 87.29 1,080.91 1,084.43 0.88 -0.62 -  3,059.00 30.49 86.64 2,776.48 90.73 1,127.32 1,130.97 2.60 2.42 3,154.00 31.83 86.17 2,857.77 93.82 1,176.38 1,180.11 1.43 1.41 - 3,248.00 31.04 84.06 2,937.98 97.99 1,225.22 1,229.13 1.44 -0.84 - 3,343.00 30.60 84.77 3,019.56 102.72 1,273.66 12,77.79 0.60 -0.46 3,438.00 27.44 82.39 3,102.63 107.83 1,319.45 1,323.84 3.54 -3.33 -  3,533.00 28.05 80.28 3,186.70 114.50 1,363.16 1,367.95 122 0.64 -3 3,628.00 28.82 79.62 3,270.24 122.39 1,407.70 1,412.98 0.88 0.81 -3 3,723.00 28.55 80.28 3,186.70 114.50 1,363.16 1,367.95 122 0.64 -3 3,628.00 28.85 79.62 3,270.24 122.39 1,407.70 1,412.98 0.88 0.81 -3 3,723.00 28.05 80.28 3,186.70 114.50 1,363.16 1,367.95 122 0.64 -3 3,628.00 28.85 79.62 3,270.24 122.39 1,407.70 1,412.98 0.88 0.81 -3 3,723.00 28.05 80.09 3,521.03 144.90 1,583.31 1,589.84 1.73 -1.66 1,400.00 27.44 86.79 3,776.49 151.52 1,667.57 1,674.36 222 1,67	1,926.00	29.72	83.14	1,783.21	46.22	584.28	586.10	4.46	-4.35	-1.80
2,207.00         28.14         87.00         2,030.37         60.52         717.15         719.69         1.28         -0.10           2,304.00         29.55         86.48         2,115.33         63.19         763.87         766.47         1.48         1.45        2397.00         29.24         85.77         2,196.36         66.27         809.41         812.12         0.50         -0.33        2492.00         28.58         86.33         2,279.61         69.39         855.06         857.87         0.99         -0.94         2,561.00         28.58         86.33         2,340.27         71.75         887.86         890.76         0.83         0.33          2,865.00         28.67         84.63         2,361.33         72.76         899.31         902.25         1.45         0.38         <	2,020.00	28.07	82.06	1,865.51	52.06	629.32	631.47	1.84	-1.76	-1.15
2,304.00	2,113.00	28.23	84.45	1,947.51	57.21	672.88	675.30	1.22	0.17	2.57
2,397.00 29.24 85.77 2,196.36 66.27 809.41 812.12 0.50 -0.33 2,492.00 28.35 86.43 2,279.61 69.39 855.06 857.87 0.99 -0.94 2,561.00 28.58 85.33 2,340.27 71.75 887.86 890.76 0.83 0.33  LAST SDI MWD SURFACE SURVEY 2,585.00 28.67 84.63 2,361.33 72.76 899.31 902.25 1.45 0.38  FIRST SDI MWD PRODUCTION SURVEY 2,592.00 28.65 84.63 2,367.48 73.07 902.66 905.61 0.32 -0.32  8 5/6" 2,680.00 28.37 84.57 2,444.81 77.02 944.47 947.61 0.32 -0.32 2,774.00 29.35 86.35 2,527.13 80.60 989.70 992.97 1.39 1.04 2,869.00 28.78 86.03 2,610.17 83.67 1,035.75 1,039.12 0.62 -0.60 2,964.00 28.19 84.80 2,693.67 87.29 1,080.91 1,084.43 0.88 -0.62  3,059.00 30.49 86.64 2,776.48 90.73 1,127.32 1,130.97 2.60 2.42 3,154.00 31.83 86.17 2,857.77 93.82 1,176.38 1,180.11 1.43 1.41 3,248.00 31.04 84.06 2,937.98 97.98 1,225.22 1,229.13 1.44 -0.84 3,343.00 30.60 84.77 3,019.56 102.72 1,273.66 1,277.79 0.60 -0.46 3,438.00 27.44 82.39 3,102.63 107.83 1,319.45 1,323.84 3.54 -3.33  3,533.00 28.65 80.28 3,186.70 114.50 1,363.16 1,367.95 1,22 0.64 3,628.00 28.82 79.62 3,270.24 122.39 1,407.70 1,412.98 0.88 0.81 3,533.00 28.65 80.28 3,186.70 114.50 1,363.16 1,367.95 1,22 0.64 3,628.00 28.82 79.62 3,270.24 122.39 1,407.70 1,412.98 0.88 0.81 3,533.00 28.65 80.28 3,186.70 114.50 1,363.16 1,367.95 1,22 0.64 3,628.00 28.82 79.62 3,270.24 122.39 1,407.70 1,412.98 0.88 0.81 3,533.00 28.65 80.28 3,186.70 114.50 1,363.16 1,367.95 1,22 0.64 3,628.00 28.82 79.62 3,270.24 122.39 1,407.70 1,412.98 0.88 0.81 3,533.00 28.65 80.98 3,186.70 114.50 1,363.16 1,367.95 1,22 0.64 3,628.00 28.82 79.62 3,270.24 122.39 1,407.70 1,412.98 0.88 0.81 3,533.00 28.65 80.98 3,186.70 114.50 1,363.16 1,367.95 1,22 0.64 3,628.00 28.82 79.62 3,270.24 122.39 1,407.70 1,412.98 0.88 0.81 3,533.00 28.65 80.98 3,186.70 114.50 1,363.16 1,367.95 1,22 0.64 3,628.00 28.85 80.99 3,521.03 142.49 1,539.34 1,545.82 2.63 1.112 1.12 1.12 1.12 1.12 1.12 1.12 1.	2,207.00	28.14	87.00	2,030.37	60.52	717.15	719.69	1.28	-0.10	2.71
2,397.00 29.24 85.77 2,196.36 66.27 809.41 812.12 0.50 -0.33 -2.492.00 28.35 86.43 2,279.61 69.39 855.06 857.87 0.99 -0.94 2.561.00 28.58 85.33 2,340.27 71.75 887.86 890.76 0.83 0.33 -3 -3 -3 -3 -3 -3 -3 -3 -3 -3 -3 -3 -	2,304.00	29.55	86.48	2,115.33	63.19	763.87	766.47	1.48	1.45	-0.54
2,561.00	2,397.00	29.24	85.77	2,196.36	66.27	809.41	812.12	0.50	-0.33	-0.76
LAST SDI MWD SURFACE SURVEY 2,585.00 28.67 84.63 2,361.33 72.76 899.31 902.25 1.45 0.38 -  FIRST SDI MWD PRODUCTION SURVEY  2,592.00 28.65 84.63 2,367.48 73.07 902.66 905.61 0.32 -0.32 -  8 5/8"  2,680.00 28.37 84.57 2,444.81 77.02 944.47 947.61 0.32 -0.32 -  2,774.00 29.35 86.35 2,527.13 80.60 989.70 992.97 1.39 1.04 2,869.00 28.78 86.03 2,610.17 83.67 1,035.75 1,039.12 0.62 -0.60 -  2,964.00 28.19 84.80 2,693.67 87.29 1,080.91 1,084.43 0.88 -0.62 -  3,059.00 30.49 86.64 2,776.48 90.73 1,127.32 1,130.97 2.60 2.42 3,154.00 31.83 86.17 2,857.77 93.82 1,176.38 1,180.11 1.43 1.41 -  3,248.00 31.04 84.06 2,937.98 97.98 1,225.22 1,229.13 1.44 -0.84 -  3,343.00 30.60 84.77 3,019.56 102.72 1,273.66 1,277.79 0.60 -0.46 3,438.00 27.44 82.39 3,102.63 107.83 1,319.45 1,323.84 3.54 -3.33 -  3,533.00 28.05 80.28 3,186.70 114.50 1,363.16 1,367.95 1.22 0.64 -  3,628.00 28.82 79.62 3,270.24 122.39 1,407.70 1,412.98 0.88 0.81 -  3,723.00 28.52 79.93 3,353.60 130.48 1,452.55 1,458.34 0.35 -0.32 3,818.00 27.00 81.25 3,437.66 137.73 1,496.20 1,502.43 1.73 -1.60 3,912.00 28.05 86.09 3,521.03 144.90 1,583.31 1,589.84 1.73 -1.55 4,103.00 26.56 87.67 3,606.33 144.90 1,583.31 1,589.84 1.73 -1.55 4,103.00 26.56 87.67 3,606.33 144.90 1,583.31 1,589.84 1.73 -1.55 4,103.00 26.56 87.67 3,606.33 144.90 1,583.31 1,589.84 1.73 -1.55 4,103.00 26.56 83.71 3,691.57 148.03 1,625.12 1,667.57 1,674.36 2.22 1.67	2,492.00	28.35	86.43	2,279.61	69.39	855.06	857.87	0.99	-0.94	0.69
### PRODUCTION SURVEY  2,592.00			85.33			887.86	890.76			-1.59
FIRST SDI MWD PRODUCTION SURVEY  2,592.00	LAST SDI M	IWD SURFACE S	URVEY							
2,592.00       28.65       84.63       2,367.48       73.07       902.66       905.61       0.32       -0.32       -         8 5/8"       2,680.00       28.37       84.57       2,444.81       77.02       944.47       947.61       0.32       -0.32       -         2,774.00       29.35       86.35       2,527.13       80.60       989.70       992.97       1.39       1.04       -         2,869.00       28.78       86.03       2,610.17       83.67       1,035.75       1,039.12       0.62       -0.60       -       -0.60       -       -0.60       -2.964.00       28.19       84.80       2,693.67       87.29       1,080.91       1,084.43       0.88       -0.62       -         3,059.00       30.49       86.64       2,776.48       90.73       1,127.32       1,130.97       2.60       2.42         3,154.00       31.83       86.17       2,857.77       93.82       1,176.38       1,180.11       1.43       1.41       -         3,248.00       31.04       84.06       2,937.98       97.98       1,225.22       1,229.13       1.44       -0.84       -         3,438.00       27.44       82.39       3,102.63       107.83	2,585.00	28.67	84.63	2,361.33	72.76	899.31	902.25	1.45	0.38	-2.92
8 5/8"         2,680.00       28.37       84.57       2,444.81       77.02       944.47       947.61       0.32       -0.32       -         2,774.00       29.35       86.35       2,527.13       80.60       989.70       992.97       1.39       1.04         2,869.00       28.78       86.03       2,610.17       83.67       1,035.75       1,039.12       0.62       -0.60       -         2,964.00       28.19       84.80       2,693.67       87.29       1,080.91       1,084.43       0.88       -0.62       -         3,059.00       30.49       86.64       2,776.48       90.73       1,127.32       1,130.97       2.60       2.42         3,154.00       31.83       86.17       2,857.77       93.82       1,176.38       1,180.11       1.43       1.41       -         3,248.00       31.04       84.06       2,937.98       97.98       1,225.22       1,229.13       1.44       -0.84       -         3,438.00       27.44       82.39       3,102.63       107.83       1,319.45       1,323.84       3.54       -3.33       -         3,533.00       28.05       80.28       3,186.70       114.50       1,363.16	FIRST SDI N	WD PRODUCTION	ON SURVEY							
2,680.00       28.37       84.57       2,444.81       77.02       944.47       947.61       0.32       -0.32       -2,774.00       29.35       86.35       2,527.13       80.60       989.70       992.97       1.39       1.04         2,869.00       28.78       86.03       2,610.17       83.67       1,035.75       1,039.12       0.62       -0.60          2,964.00       28.19       84.80       2,693.67       87.29       1,080.91       1,084.43       0.88       -0.62          3,059.00       30.49       86.64       2,776.48       90.73       1,127.32       1,130.97       2.60       2.42         3,154.00       31.83       86.17       2,857.77       93.82       1,176.38       1,180.11       1.43       1.41          3,248.00       31.04       84.06       2,937.98       97.98       1,225.22       1,229.13       1.44       -0.84          3,343.00       30.60       84.77       3,019.56       102.72       1,273.66       1,277.79       0.60       -0.46         3,438.00       27.44       82.39       3,102.63       107.83       1,363.16       1,367.95       1.22       0.64	2,592.00	28.65	84.63	2,367.48	73.07	902.66	905.61	0.32	-0.32	-0.06
2,680.00       28.37       84.57       2,444.81       77.02       944.47       947.61       0.32       -0.32       -2.774.00       29.35       86.35       2,527.13       80.60       989.70       992.97       1.39       1.04         2,869.00       28.78       86.03       2,610.17       83.67       1,035.75       1,039.12       0.62       -0.60          2,964.00       28.19       84.80       2,693.67       87.29       1,080.91       1,084.43       0.88       -0.62          3,059.00       30.49       86.64       2,776.48       90.73       1,127.32       1,130.97       2.60       2.42         3,154.00       31.83       86.17       2,857.77       93.82       1,176.38       1,180.11       1.43       1.41          3,248.00       31.04       84.06       2,937.98       97.98       1,225.22       1,229.13       1.44       -0.84          3,343.00       30.60       84.77       3,019.56       102.72       1,273.66       1,277.79       0.60       -0.46         3,438.00       27.44       82.39       3,102.63       107.83       1,363.16       1,367.95       1.22       0.64	8 5/8"									
2,869.00       28.78       86.03       2,610.17       83.67       1,035.75       1,039.12       0.62       -0.60       -         2,964.00       28.19       84.80       2,693.67       87.29       1,080.91       1,084.43       0.88       -0.62       -         3,059.00       30.49       86.64       2,776.48       90.73       1,127.32       1,130.97       2.60       2.42         3,154.00       31.83       86.17       2,857.77       93.82       1,176.38       1,180.11       1.43       1.41       -         3,248.00       31.04       84.06       2,937.98       97.98       1,225.22       1,229.13       1.44       -0.84       -         3,343.00       30.60       84.77       3,019.56       102.72       1,273.66       1,277.79       0.60       -0.46         3,438.00       27.44       82.39       3,102.63       107.83       1,319.45       1,323.84       3.54       -3.33       -         3,628.00       28.82       79.62       3,270.24       122.39       1,407.70       1,412.98       0.88       0.81       -         3,723.00       28.52       79.93       3,353.60       130.48       1,452.55       1,458.34       0		28.37	84.57	2,444.81	77.02	944.47	947.61	0.32	-0.32	-0.06
2,869.00       28.78       86.03       2,610.17       83.67       1,035.75       1,039.12       0.62       -0.60       -         2,964.00       28.19       84.80       2,693.67       87.29       1,080.91       1,084.43       0.88       -0.62       -         3,059.00       30.49       86.64       2,776.48       90.73       1,127.32       1,130.97       2.60       2.42         3,154.00       31.83       86.17       2,857.77       93.82       1,176.38       1,180.11       1.43       1.41       -         3,248.00       31.04       84.06       2,937.98       97.98       1,225.22       1,229.13       1.44       -0.84       -         3,343.00       30.60       84.77       3,019.56       102.72       1,273.66       1,277.79       0.60       -0.46         3,438.00       27.44       82.39       3,102.63       107.83       1,319.45       1,323.84       3.54       -3.33       -         3,628.00       28.82       79.62       3,270.24       122.39       1,407.70       1,412.98       0.88       0.81       -         3,723.00       28.52       79.93       3,353.60       130.48       1,452.55       1,458.34       0										1.89
2,964.00       28.19       84.80       2,693.67       87.29       1,080.91       1,084.43       0.88       -0.62       -         3,059.00       30.49       86.64       2,776.48       90.73       1,127.32       1,130.97       2.60       2.42         3,154.00       31.83       86.17       2,857.77       93.82       1,176.38       1,180.11       1.43       1.41       -         3,248.00       31.04       84.06       2,937.98       97.98       1,225.22       1,229.13       1.44       -0.84       -         3,343.00       30.60       84.77       3,019.56       102.72       1,273.66       1,277.79       0.60       -0.46         3,438.00       27.44       82.39       3,102.63       107.83       1,319.45       1,323.84       3.54       -3.33       -         3,628.00       28.05       80.28       3,186.70       114.50       1,363.16       1,367.95       1.22       0.64       -         3,723.00       28.82       79.62       3,270.24       122.39       1,407.70       1,412.98       0.88       0.81       -         3,818.00       27.00       81.25       3,437.66       137.73       1,496.20       1,502.43       1	,									-0.34
3,154.00       31.83       86.17       2,857.77       93.82       1,176.38       1,180.11       1.43       1.41       -         3,248.00       31.04       84.06       2,937.98       97.98       1,225.22       1,229.13       1.44       -0.84       -         3,343.00       30.60       84.77       3,019.56       102.72       1,273.66       1,277.79       0.60       -0.46         3,438.00       27.44       82.39       3,102.63       107.83       1,319.45       1,323.84       3.54       -3.33       -         3,533.00       28.05       80.28       3,186.70       114.50       1,363.16       1,367.95       1.22       0.64       -         3,628.00       28.82       79.62       3,270.24       122.39       1,407.70       1,412.98       0.88       0.81       -         3,723.00       28.52       79.93       3,353.60       130.48       1,452.55       1,458.34       0.35       -0.32         3,818.00       27.00       81.25       3,437.66       137.73       1,496.20       1,502.43       1.73       -1.60         3,912.00       28.05       86.09       3,521.03       142.49       1,539.34       1,545.82       2.63	,									-1.29
3,154.00       31.83       86.17       2,857.77       93.82       1,176.38       1,180.11       1.43       1.41       -         3,248.00       31.04       84.06       2,937.98       97.98       1,225.22       1,229.13       1.44       -0.84       -         3,343.00       30.60       84.77       3,019.56       102.72       1,273.66       1,277.79       0.60       -0.46         3,438.00       27.44       82.39       3,102.63       107.83       1,319.45       1,323.84       3.54       -3.33       -         3,533.00       28.05       80.28       3,186.70       114.50       1,363.16       1,367.95       1.22       0.64       -         3,628.00       28.82       79.62       3,270.24       122.39       1,407.70       1,412.98       0.88       0.81       -         3,723.00       28.52       79.93       3,353.60       130.48       1,452.55       1,458.34       0.35       -0.32         3,818.00       27.00       81.25       3,437.66       137.73       1,496.20       1,502.43       1.73       -1.60         3,912.00       28.05       86.09       3,521.03       142.49       1,539.34       1,545.82       2.63	3,059.00	30.49	86.64	2,776.48	90.73	1,127.32	1,130.97	2.60	2.42	1.94
3,248.00       31.04       84.06       2,937.98       97.98       1,225.22       1,229.13       1.44       -0.84       -         3,343.00       30.60       84.77       3,019.56       102.72       1,273.66       1,277.79       0.60       -0.46         3,438.00       27.44       82.39       3,102.63       107.83       1,319.45       1,323.84       3.54       -3.33       -         3,533.00       28.05       80.28       3,186.70       114.50       1,363.16       1,367.95       1.22       0.64       -         3,628.00       28.82       79.62       3,270.24       122.39       1,407.70       1,412.98       0.88       0.81       -         3,723.00       28.52       79.93       3,353.60       130.48       1,452.55       1,458.34       0.35       -0.32         3,818.00       27.00       81.25       3,437.66       137.73       1,496.20       1,502.43       1.73       -1.60         3,912.00       28.05       86.09       3,521.03       142.49       1,539.34       1,545.82       2.63       1.12         4,008.00       26.56       87.67       3,606.33       144.90       1,583.31       1,589.84       1.73       -1.55							*			-0.49
3,343.00       30.60       84.77       3,019.56       102.72       1,273.66       1,277.79       0.60       -0.46         3,438.00       27.44       82.39       3,102.63       107.83       1,319.45       1,323.84       3.54       -3.33       -         3,533.00       28.05       80.28       3,186.70       114.50       1,363.16       1,367.95       1.22       0.64       -         3,628.00       28.82       79.62       3,270.24       122.39       1,407.70       1,412.98       0.88       0.81       -         3,723.00       28.52       79.93       3,353.60       130.48       1,452.55       1,458.34       0.35       -0.32         3,818.00       27.00       81.25       3,437.66       137.73       1,496.20       1,502.43       1.73       -1.60         3,912.00       28.05       86.09       3,521.03       142.49       1,539.34       1,545.82       2.63       1.12         4,008.00       26.56       87.67       3,606.33       144.90       1,583.31       1,589.84       1.73       -1.55         4,103.00       25.85       83.71       3,691.57       148.03       1,625.12       1,631.77       1.99       -0.75 <t< td=""><td>,</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-2.24</td></t<>	,									-2.24
3,438.00       27.44       82.39       3,102.63       107.83       1,319.45       1,323.84       3.54       -3.33       -         3,533.00       28.05       80.28       3,186.70       114.50       1,363.16       1,367.95       1.22       0.64       -         3,628.00       28.82       79.62       3,270.24       122.39       1,407.70       1,412.98       0.88       0.81       -         3,723.00       28.52       79.93       3,353.60       130.48       1,452.55       1,458.34       0.35       -0.32         3,818.00       27.00       81.25       3,437.66       137.73       1,496.20       1,502.43       1.73       -1.60         3,912.00       28.05       86.09       3,521.03       142.49       1,539.34       1,545.82       2.63       1.12         4,008.00       26.56       87.67       3,606.33       144.90       1,583.31       1,589.84       1.73       -1.55         4,103.00       25.85       83.71       3,691.57       148.03       1,625.12       1,631.77       1.99       -0.75         4,198.00       27.44       86.79       3,776.49       151.52       1,667.57       1,674.36       2.22       1.67 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0.75</td>										0.75
3,628.00       28.82       79.62       3,270.24       122.39       1,407.70       1,412.98       0.88       0.81       -         3,723.00       28.52       79.93       3,353.60       130.48       1,452.55       1,458.34       0.35       -0.32         3,818.00       27.00       81.25       3,437.66       137.73       1,496.20       1,502.43       1.73       -1.60         3,912.00       28.05       86.09       3,521.03       142.49       1,539.34       1,545.82       2.63       1.12         4,008.00       26.56       87.67       3,606.33       144.90       1,583.31       1,589.84       1.73       -1.55         4,103.00       25.85       83.71       3,691.57       148.03       1,625.12       1,631.77       1.99       -0.75         4,198.00       27.44       86.79       3,776.49       151.52       1,667.57       1,674.36       2.22       1.67										-2.51
3,628.00       28.82       79.62       3,270.24       122.39       1,407.70       1,412.98       0.88       0.81       -         3,723.00       28.52       79.93       3,353.60       130.48       1,452.55       1,458.34       0.35       -0.32         3,818.00       27.00       81.25       3,437.66       137.73       1,496.20       1,502.43       1.73       -1.60         3,912.00       28.05       86.09       3,521.03       142.49       1,539.34       1,545.82       2.63       1.12         4,008.00       26.56       87.67       3,606.33       144.90       1,583.31       1,589.84       1.73       -1.55         4,103.00       25.85       83.71       3,691.57       148.03       1,625.12       1,631.77       1.99       -0.75         4,198.00       27.44       86.79       3,776.49       151.52       1,667.57       1,674.36       2.22       1.67	3.533.00	28.05	80.28	3,186.70	114.50	1,363.16	1,367.95	1.22	0.64	-2.22
3,723.00       28.52       79.93       3,353.60       130.48       1,452.55       1,458.34       0.35       -0.32         3,818.00       27.00       81.25       3,437.66       137.73       1,496.20       1,502.43       1.73       -1.60         3,912.00       28.05       86.09       3,521.03       142.49       1,539.34       1,545.82       2.63       1.12         4,008.00       26.56       87.67       3,606.33       144.90       1,583.31       1,589.84       1.73       -1.55         4,103.00       25.85       83.71       3,691.57       148.03       1,625.12       1,631.77       1.99       -0.75       -         4,198.00       27.44       86.79       3,776.49       151.52       1,667.57       1,674.36       2.22       1.67										-0.69
3,818.00     27.00     81.25     3,437.66     137.73     1,496.20     1,502.43     1.73     -1.60       3,912.00     28.05     86.09     3,521.03     142.49     1,539.34     1,545.82     2.63     1.12       4,008.00     26.56     87.67     3,606.33     144.90     1,583.31     1,589.84     1.73     -1.55       4,103.00     25.85     83.71     3,691.57     148.03     1,625.12     1,631.77     1.99     -0.75       4,198.00     27.44     86.79     3,776.49     151.52     1,667.57     1,674.36     2.22     1.67										0.33
3,912.00     28.05     86.09     3,521.03     142.49     1,539.34     1,545.82     2.63     1.12       4,008.00     26.56     87.67     3,606.33     144.90     1,583.31     1,589.84     1.73     -1.55       4,103.00     25.85     83.71     3,691.57     148.03     1,625.12     1,631.77     1.99     -0.75     -4,198.00     27.44     86.79     3,776.49     151.52     1,667.57     1,674.36     2.22     1.67						•				1.39
4,103.00       25.85       83.71       3,691.57       148.03       1,625.12       1,631.77       1.99       -0.75       -         4,198.00       27.44       86.79       3,776.49       151.52       1,667.57       1,674.36       2.22       1.67										5.15
4,103.00       25.85       83.71       3,691.57       148.03       1,625.12       1,631.77       1.99       -0.75       -         4,198.00       27.44       86.79       3,776.49       151.52       1,667.57       1,674.36       2.22       1.67	4 008 00	26.56	87 67	3,606.33	144 90	1,583 31	1.589 84	1 73	-1 55	1.65
4,198.00 27.44 86.79 3,776.49 151.52 1,667.57 1,674.36 2.22 1.67										-4.17
										3.24
1,202.00 20.00 0,000.00 101.07 1,111.20 1,111.01 2.00 0.00	•									5.61
										-4.32

5/5/2014 10:47:19AM Page 3 COMPASS 5000.1 Build 70



### **Scientific Drilling**

Survey Report



US ROCKIES REGION PLANNING Company: Project: UTAH - UTM (feet), NAD27, Zone 12N

Site: NBU 922-34M PAD

ОН

Well: NBU 922-34J4CS Wellbore: ОН

Design:

Local Co-ordinate Reference:

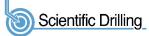
Well NBU 922-34J4CS TVD Reference:

GL 4980 & KB 18 @ 4998.00ft (SST 57) MD Reference: GL 4980 & KB 18 @ 4998.00ft (SST 57)

North Reference:

Minimum Curvature **Survey Calculation Method:** Denver Sales Office Database:

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,482.00	30.28	84.82	4,025.84	154.94	1,803.33	1,809.95	2.20	1.47	-3.31
4,577.00	29.99	85.47	4,108.00	158.97	1,850.85	1,857.64	0.46	-0.31	0.68
4,672.00	27.82	88.78	4,191.16	161.32	1,896.69	1,903.52	2.84	-2.28	3.48
4,767.00	26.82	86.70	4,275.57	163.03	1,940.25	1,947.08	1.46	-1.05	-2.19
4,862.00	28.40	84.06	4,359.75	166.60	1,984.12	1,991.09	2.10	1.66	-2.78
4,957.00	29.73	82.95	4,442.78	171.83	2,029.97	2,037.22	1.51	1.40	-1.17
5,052.00	30.34	86.61	4,525.03	176.14	2,077.31	2,084.74	2.03	0.64	3.85
5,147.00	30.42	87.52	4,606.99	178.60	2,125.29	2,132.77	0.49	0.08	0.96
5,242.00	31.04	86.61	4,688.65	181.09	2,173.76	2,181.29	0.82	0.65	-0.96
5,337.00	31.92	85.73	4,769.67	184.41	2,223.26	2,230.89	1.04	0.93	-0.93
5,432.00	33.24	87.05	4,849.72	187.62	2,274.31	2,282.03	1.58	1.39	1.39
5,527.00	31.92	86.17	4,929.77	190.63	2,325.38	2,333.17	1.48	-1.39	-0.93
5,622.00	30.16	86.17	5,011.16	193.91	2,374.25	2,382.15	1.85	-1.85	0.00
5,716.00	28.67	87.67	5,093.04	196.40	2,420.34	2,428.30	1.77	-1.59	1.60
5,811.00	28.23	87.84	5,176.57	198.17	2,465.57	2,473.52	0.47	-0.46	0.18
5,906.00	27.70	86.44	5,260.48	200.39	2,510.06	2,518.04	0.89	-0.56	-1.47
6,001.00	27.70	84.50	5,344.59	203.88	2,554.07	2,562.20	0.95	0.00	-2.04
6,096.00	26.38	85.56	5,429.21	207.63	2,597.10	2,605.38	1.48	-1.39	1.12
6,191.00	22.97	85.80	5,515.52	210.62	2,636.64	2,645.03	3.59	-3.59	0.25
6,286.00	21.74	84.55	5,603.38	213.65	2,672.64	2,681.16	1.39	-1.29	-1.32
6,380.00	21.38	85.19	5,690.80	216.74	2,707.04	2,715.71	0.46	-0.38	0.68
6,475.00	20.40	85.82	5,779.55	219.40	2,740.81	2,749.58	1.06	-1.03	0.66
6,570.00	18.36	86.64	5,869.17	221.48	2,772.26	2,781.10	2.17	-2.15	0.86
6,665.00	17.94	84.24	5,959.44	223.83	2,801.76	2,810.68	0.90	-0.44	-2.53
6,760.00	16.50	84.80	6,050.18	226.52	2,829.75	2,838.80	1.53	-1.52	0.59
6,855.00	15.30	86.52	6,141.54	228.50	2,855.70	2,864.83	1.36	-1.26	1.81
6,950.00	14.30	87.78	6,233.39	229.72	2,879.93	2,889.08	1.11	-1.05	1.33
7,045.00	13.10	90.48	6,325.69	230.08	2,902.43	2,911.53	1.43	-1.26	2.84
7,139.00	11.43	92.06	6,417.54	229.66	2,922.39	2,931.39	1.81	-1.78	1.68
7,234.00	10.20	95.84	6,510.85	228.46	2,940.16	2,949.01	1.49	-1.29	3.98
7,329.00	8.09	97.25	6,604.64	226.76	2,955.16	2,963.83	2.23	-2.22	1.48
7,424.00	5.89	99.53	6,698.93	225.11	2,966.60	2,975.10	2.33	-2.32	2.40
7,519.00	3.69	116.58	6,793.59	222.94	2,974.15	2,982.44	2.73	-2.32	17.95
7,614.00	2.11	100.76	6,888.47	221.24	2,978.60	2,986.74	1.85	-1.66	-16.65
7,709.00	0.43	177.63	6,983.45	220.56	2,980.33	2,988.41	2.16	-1.77	80.92
7,804.00	0.88	188.63	7,078.44	219.48	2,980.24	2,988.23	0.49	0.47	11.58
7,899.00	1.06	185.93	7,173.43	217.89	2,980.04	2,987.90	0.20	0.19	-2.84
7,994.00	1.47	179.58	7,268.40	215.80	2,979.95	2,987.65	0.46	0.43	-6.68
8,089.00	0.97	178.61	7,363.38	213.77	2,979.98	2,987.52	0.53	-0.53	-1.02
8,183.00	0.18	165.63	7,457.38	212.84	2,980.04	2,987.50	0.85	-0.84	-13.81
8,278.00	0.60	155.00	7,552.38	212.24	2,980.29	2,987.70	0.45	0.44	-11.19
8,373.00	1.01	160.32	7,647.37	211.00	2,980.78	2,988.09	0.44	0.43	5.60
8,468.00	0.41	263.44	7,742.36	210.17	2,980.72	2,987.97	1.23	-0.63	108.55



#### **Scientific Drilling**





US ROCKIES REGION PLANNING Company: Project: UTAH - UTM (feet), NAD27, Zone 12N

Site: NBU 922-34M PAD Well: NBU 922-34J4CS

Wellbore: ОН Design: ОН

Local Co-ordinate Reference:

TVD Reference: MD Reference:

Database:

North Reference:

**Survey Calculation Method:** 

GL 4980 & KB 18 @ 4998.00ft (SST 57) GL 4980 & KB 18 @ 4998.00ft (SST 57)

Minimum Curvature Denver Sales Office

Well NBU 922-34J4CS

y										
ı	Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
	8,556.00	1.58	308.18	7,830.35	210.89	2,979.46	2,986.76	1.50	1.33	50.84
	8,651.00	1.34	315.30	7,925.32	212.49	2,977.64	2,985.08	0.32	-0.25	7.49
	8,746.00	0.97	317.33	8,020.30	213.87	2,976.32	2,983.87	0.39	-0.39	2.14
	8,841.00	0.53	318.29	8,115.29	214.79	2,975.48	2,983.11	0.46	-0.46	1.01
	8,943.00	0.35	253.23	8,217.29	215.05	2,974.87	2,982.52	0.49	-0.18	-63.78
	9,038.00	0.24	233.27	8,312.28	214.85	2,974.43	2,982.07	0.16	-0.12	-21.01
	9,133.00	0.44	154.20	8,407.28	214.40	2,974.43	2,982.04	0.48	0.21	-83.23
	9,228.00	0.70	172.39	8,502.28	213.50	2,974.67	2,982.20	0.33	0.27	19.15
	9,322.00	0.78	157.49	8,596.27	212.34	2,974.99	2,982.42	0.22	0.09	-15.85
	9,417.00	0.88	151.48	8,691.26	211.10	2,975.58	2,982.92	0.14	0.11	-6.33
	9,512.00	1.41	152.00	8,786.24	209.42	2,976.48	2,983.68	0.56	0.56	0.55
	9,527.00	1.23	146.55	8,801.24	209.13	2,976.66	2,983.83	1.46	-1.20	-36.33
	LAST SDI MV	VD PRODUCTIO	N SURVEY							
	9,585.00	1.23	146.55	8,859.22	208.09	2,977.34	2,984.43	0.00	0.00	0.00
	SDI PROJEC	TION TO TD								

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL_NBU 922-34J4C\$ - actual wellpath miss - Circle (radius 25.00	ses target cen	0.00 ter by 21.19	8,879.00 ft at 9585.00	212.51 oft MD (8859.2	2,971.15 2 TVD, 208.09	14,526,016.27 9 N, 2977.34 E)	2,082,284.52	39.9891860	-109.4225130

Casing Points						
	Measured	Vertical		Casing	Hole	
	Depth	Depth		Diameter	Diameter	
	(ft)	(ft)	Name	(in)	(in)	
	2,592.00	2,367.48 8 5/8"		8.625	11.000	

Design Annotations	,				
Mea	sured	Vertical	Local Coo	rdinates	
	epth (ft)	Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
	196.00	195.99	-1.50	-0.52	FIRST SDI MWD SURFACE SURVEY
2	2,561.00	2,340.27	71.75	887.86	LAST SDI MWD SURFACE SURVEY
2	2,585.00	2,361.33	72.76	899.31	FIRST SDI MWD PRODUCTION SURVEY
9	9,527.00	8,801.24	209.13	2,976.66	LAST SDI MWD PRODUCTION SURVEY
9	9,585.00	8,859.22	208.09	2,977.34	SDI PROJECTION TO TD

Checked By:	Approved By:	Date:	

					U	S ROC	KIES R	EGION	
					Opera	tion S	Summa	ary Report	
Well: NBU 922-3	34J4CS G	REEN						Spud date: 1/1	11/2014
Project: UTAH-U	INTAH			Site: NBL	J 922-34N	/I PAD			Rig name no.: SWABBCO 6/6
Event: COMPLE	TION			Start date	e: 8/27/20	14			End date: 12/22/2014
Active datum: RI Level)	KB @4,98	9.00usft (al	oove Mean S	ea	UWI: S\	W/SW/0/9	9/S/22/E/3	4/0/0/26/PM/S/1	203/W/0/497/0/0
Date		Time art-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
7/1/2014		-							
8/27/2014		- 10:00 - 12:30	2.00	SUBSPR	52	В	P		FILL SURFACE CSG. MIRU CAMERON QUICK TEST. INSTALL TOP FLANGE PRESSURE TEST CSG 1ST PSI TEST T/ 7000 PSI. HELD FOR 15 MIN LOST -70 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI.  PRESSURE TEST 8 5/8 X 4 1/2 TO 500 PSI HELD FOR 5 MIN LOST -105 PSI, BLED PSI OFF, REINSTALLED POP OFF SWIFN NO PRESSURE ON SURFACE CASING FILLED SURFACE WITH 1 BBL H2O MOVE OVER, R/U
11/19/2014					30	A	Р		
	12:30	- 17:00	4.50	SUBSPR					N/D FRAC VALVES, N/U BOPS, R/U TBG EQUIP, P/U 3-7/8 BIT, 301 JNTS 2-3/8 L-80 TBG, TAG @=9,512', L/.D 3 JNTS. EOT @=9,405' SWIFN.
11/20/2014		- 7:15	0.25	SUBSPR	48		Р		HSM, L/D TBG
		- 8:00	0.75	SUBSPR	31	Н	Р		OPEN WELL, SITP=0#, SICP=0#, P/U 3 JNT 2-3/8 L-80 TBG, CIRC HOLE CLEAN W/ RIG PUMP.
		- 17:00	9.00	SUBSPR	31	I	Р		POOH L/D 300 JNTS 2-3/8 L-80 TBG W/ BHA. RDMO
12/1/2014	13:00	- 14:00	1.00	SUBSPR	52	В	P		FILL SURFACE CSG. MIRU CAMERON QUICK TEST. PRESSURE TEST CSG & FRAC VALVES  1ST PSI TEST T/ 7000 PSI. HELD FOR 15 MIN LOST -65 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI.  PRESSURE TEST 8 5/8 X 4 1/2 TO 510 PSI HELD FOR 5 MIN LOST -10 PSI, BLED PSI OFF, REINSTALLED POP OFF SWIFN
10/1/22 : :	40.00	44	4.55	OLIDATE.					NO PRESSURE ON SURFACE CASING FILLED SURFACE WITH 1 BBL H2O
12/4/2014	13:00	- 14:00	1.00	SUBSPR	37	D	Р		PERF STG 1)PU 3 1/8 EXP GUN, 19 GM, .40 HOLE SIZE. RIH PERF WELL, AS PER PERF DESIGN. POOH. SWIFW
12/8/2014	6:30	- 6:45	0.25	FRAC	48		Р		HSM, SLIPS, TRIPS & FALLS, STAY OUT OFF RED ZONE

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<del></del>	v Number:	J. J. J. J.						
				U	S ROC	KIES R	EGION	
				Opera	tion S	umma	ary Report	
/ell: NBU 922-	34J4CS GREEN		_				Spud date: 1/1	1/2014
roject: UTAH-l	JINTAH		Site: NBl	J 922-34N	1 PAD			Rig name no.: SWABBCO 6/6
vent: COMPLE	ETION		Start date	e: 8/27/20	14			End date: 12/22/2014
ctive datum: R evel)	KB @4,989.00usft (ab	oove Mean Se	a	UWI: SV	V/SW/0/9	9/S/22/E/3	4/0/0/26/PM/S/1	203/W/0/497/0/0
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	6:45 - 17:00	10.25	FRAC	36	Е	Р		FRAC STG 1) WHP 1431 PSI, BRK 3518 PSI @ 2.2 BPM. ISIP 2537 PSI, FG. 0.71 ISIP 2670 PSI, FG. 0.72, NPI 133 PSI.
								X/O TO W/L SET CBP & PERF STG 2 AS PER DESIGN
								FRAC STG 2) WHP 2112 PSI, BRK 2786 PSI @ 2.9 BPM. ISIP 2400 PSI, FG. 0.7 ISIP 2600 PSI, FG. 0.72, NPI 200 PSI.
								X/O TO W/L SET CBP & PERF STG 3 AS PER DESIGN
								FRAC STG 3) WHP 1819 PSI, BRK 2727 PSI @ 3.1 BPM. ISIP 2050 PSI, FG. 0.67 ISIP 2480 PSI, FG. 0.72 NPI 430 PSI.
12/9/2014	6:30 - 6:45	0.25	FRAC	48		P		X/O TO W/L SET CBP & PERF STG 4 AS PER DESIGN HSM, SLIPS, TRIPS & FALLS
	6:45 - 15:00	8.25	FRAC	36	Е	Р		FRAC STG 4) WHP 1713 PSI, BRK 2446 PSI @ 3.3 BPM. ISIP 2048 PSI, FG. 0.68 ISIP 2120 PSI, FG. 0.68 NPI 72 PSI.
10/10/0011	6:20	0.05	ED.10	40				X/O TO W/L SET CBP & PERF STG 5 AS PER DESIGN
12/10/2014	6:30 - 6:45 6:45 - 17:00	0.25 10.25	FRAC FRAC	48 36	Е	P P		HSM, SLIPS, TRIPS & FALLS, RED ZONE, W/L
	0.10 17.00	10.20	TIVAO	30	_	•		FRAC STG 5) WHP 1190 PSI, BRK 3124 PSI @ 3 BPM. ISIP 2246 PSI, FG. 0.7 ISIP 2287 PSI, FG. 0.71, NPI 41 PSI.
								X/O TO W/L SET CBP & PERF STG 6 AS PER DESIGN
								FRAC STG 6) WHP 670 PSI, BRK 2853 PSI @ 3.6 BPM. ISIP 1373 PSI, FG. 0.61 ISIP 2122 PSI, FG. 0.7, NPI 749 PSI.
								X/O TO W/L SET CBP & PERF STG 7 AS PER DESIGN
								FRAC STAGE 7) WHP 898 PSI, BRK 2165 PSI @ 3.3 BPM. ISIP 1663 PSI, FG. 0.65 ISIP 2175 PSI, FG. 0.71 NPI 512 PSI.
								X/O TO W/L SET CBP & PERF STG 8 AS PER DESIGN

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Р

12/11/2014

6:30 - 6:45

0.25

FRAC

48

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HSM, SLIPS, TRIPS & FALLS

<u> Sundry Number: 59692 API Well Number: 43047535080000</u> US ROCKIES REGION **Operation Summary Report** Well: NBU 922-34J4CS GREEN Spud date: 1/11/2014 Site: NBU 922-34M PAD Project: UTAH-UINTAH Rig name no.: SWABBCO 6/6 **Event: COMPLETION** End date: 12/22/2014 Start date: 8/27/2014 UWI: SW/SW/0/9/S/22/E/34/0/0/26/PM/S/1203/W/0/497/0/0 Active datum: RKB @4,989.00usft (above Mean Sea Date P/U Time Duration Phase Code MD from Operation Sub Start-End Code (usft) (hr) 6:45 - 15:00 8.25 **FRAC** Ρ 36 Ε FRAC STG 8) WHP 1218 PSI, BRK 1916 PSI @ 6.5 BPM. ISIP 1545 PSI, FG. 0.64 ISIP 1955 PSI, FG. 0.69, NPI 410 PSI. X/O TO W/L SET CBP & PERF STG 9 AS PER DESIGN FRAC STG 9) WHP 398 PSI, BRK 1972 PSI @ 3.5 BPM. ISIP 1257 PSI, FG. 0.61 ISIP 1860 PSI, FG. 0.69, NPI 603 PSI. X/O TO W/L SET KILL PLUG AS PER DESIGN, RDMO W/L & FRAC EQUIP, READY FOR D/O TOTAL LOAD PUMPED 10,832 BBLS TOTAL SAND 230,361# 12/20/2014 7:00 - 7:30 0.50 DRLOUT 48 HSM, WORKING W/ PIPE WRANGLER. 7:30 - 9:00 1.50 DRLOUT 30 Р MOVED OVER & RIGGED UP. ND WH NU BOPS RU FLOOR & TBG EQUIP. OPEN BOPS CHECK RAMS HAD TO CHANGE TOP PIPE RAMS 9:00 - 17:00 8.00 DRLOUT Ρ 31 TALLY & PU 37/8 BIT. POBS. 231 JTS 23/8 L-80 TAG UP @ 7320' RU DRLG EQUIP PREP TO D/O 12/22/14 SWI SDFWE. 12/22/2014 7:00 - 7:30 0.50 **DRLOUT** 47 Р HSM, PROPER PPE & WORKING W/ PIPE WRANGLER 7:30 - 16:30 9.00 **DRLOUT** 44 С Ρ 4 OF 5. BROKE CIRC CONV. TEST BOPS TO 3.000 PSI. RIH.\n\nC/O 10' SAND TAG 1ST PLUG @ 7330' DRL PLG IN 10 MIN. 100 PSI INCREASE RIH.\n\nC/O 15' SAND TAG 2ND PLUG @ 7646' DRL PLG IN 10 MIN, 50 PSI INCREASE RIH.\n\nC/O 15' SAND TAG 3RD PLUG @ 7880' DRL PLG IN 15 MIN, 50 PSI INCREASE RIH.\n\nC/O 30' SAND TAG 4TH PLUG @ 8071' DRL PLG IN 10 MIN, 50 PSI INCREASE RIH.5\n\nC/O 25' SAND TAG 5TH PLUG @ 8305' DRL PLG IN 7 MIN, 50 PSI INCREASE RIH.\n\nC/O 25' SAND TAG 6TH PLUG @ 8561' DRL PLG IN 7 MIN, 400 PSI INCREASE RIH.\n\nC/O 25' SAND TAG 7TH PLUG @ 8761' DRL PLG IN 7 MIN, 350 PSI INCREASE RIH.\n\nC/O 30' SAND TAG 8TH PLUG @ 8984' DRL PLG IN 15 MIN, 0 PSI INCREASE RIH.\n\nC/O 40' SAND TAG 9TH PLUG @ 9212' DRL PLG IN 15 MIN, 400 PSI INCREASE RIH.\n\nC/O TO 9521'HAD TROUBLE DRILLING 2500 LBS TORQUE TO TURN SWIVEL. CIRC CLN, RD SWIVEL, L/D 18 JTS, LAND TBG, ND BOPS NU WH, TEST FL, PUMPED OFF BIT, TURN WELL TO FB CREW.SDFN\n\nKB = 18'\n41/16 HANGER = .83' (SURFACE OPEN & LOCKED)\n282 JTS 23/8 L-80 = 8939.14' (SICP 1500, FTP 100) \nPOBS W/ 1.875 X/N = 2.20'\nEOT @ 8960.17'\n\nTWTR 10,832 BBLS\nTWR 1400 BBLS\nTWLTR 9,432 BBLS\n\n314 JT HAULED

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OUT, L-80.\n282 LANDED\n32 TO RETURN\n

**US ROCKIES REGION** 

### General

# 1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

# 1.2 Well/Wellbore Information

Well	NBU 922-34J4CS GREEN	Wellbore No.	00
Well Name	NBU 922-34J4CS	Wellbore Name	NBU 922-34J4CS
Report no.	7	Report date	12/8/2014
Project	UTAH-UINTAH	Site	NBU 922-34M PAD
Rig Name/No.	SWABBCO 6/6	Event	COMPLETION
Start date	8/27/2014	End date	12/22/2014
Spud date	1/11/2014	Active datum	RKB @4,989.00usft (above Mean Sea Level)
UWI	SW/SW/0/9/S/22/E/34/0/0/26/PM/S/1203/W/0/497/0/0		

### 1.3 General

Contractor	Job method	Supervisor	
Perforated Assembly	Conveyed method		

Summary

1.5

## 1.4 Initial Conditions

Fluid type		Fluid density	Gross Interval	7,384.0 (usft)-9,471.0 (usft Start Date/Time	Start Date/Time	12/8/2014 12:00AM
Surface press.		Estimate res press	No. of intervals	63	63 End Date/Time	12/8/2014 12:00AM
TVD fluid top		Fluid head	Total shots	213	213 Net perforation interval	71.00 (usft)
Hydrostatic press.		Press. difference	Avg. shot density	3.00 (shot/ft)	3.00 (shot/ft) Final surface pressure	
Balance Cond	NEUTRAL				Final press. date	

## 2 Intervals

## .1 Perforated Interval

January 06, 2015 at 10:59 am

Misrun How Guns Conveyed		
Misrun		
Reason	19.00 PRODUCTION	9.00 PRODUCTION
Charge weight (gram)	19.00	19.00
Charge desc. /Charge manufacturer		
Carr Phasing size (°)	3.125 120.00	120.00
Carr size (in)	3.125	3.125
Carr type /Stage No	EXP/	EXP/
Diameter (in)	0.410 EXP/	0.410 EXP/
Misfires/ Add. Shot		
Shot density (shot/ft)	3.00	3.00
MD Shot base density (usft) (shot/ft)	7,384.0 7,385.0	7,400.0 7,401.0
MD top (usft)	7,384.0	7,400.0
(nsft)		
(Jsn)		
Formation/ CCL@ CCL-TS MD Reservoir (usft) (usft) top (usft)	2/8/2014 MESAVE 2:00AM RDE/	2/8/2014 MESAVE 2:00AM RDE/
Date	12/8/2014 MES 12:00AM RDE/	12/8/2014 MES 12:00AM RDE/

Perforated Interval (Continued)

	Promotion   CCL_CCL_CCL_CCL_CCL_CCL_CCL_CCL_CCL_CCL
CCL_0S         CCL_1S         MD         And Large (inst) (usft) (usft) (bot) (bot	Formation   CCL@   CCL-TS   MD   MD   Shot   Misfires   Diameter   Cart type /Stage No   Size   Col-TS   MD   Shot   Misfires   Diameter   Cart type /Stage No   Size   Col-TS   Clarge Gesc.   Clarge ME S A V E   7.5430 7.5450 3.00   0.410 EXP   3.125 120.00   manufacturer   Cart type /Stage No   3.125 120.00   manufacturer   Cart type /Stage No   C
CCL_06 (usft)         CCL_TS (usft) (usft)         Abase (density) (usft) (shotf)         Add. (in) (in) (shotf)         Carr type /Stage No (in) (size (in) (in) (shotf)         Carr type /Stage No (in) (in) (in) (size (in) (in) (in) (in) (in) (in) (in) (in)	Formation   CCL_TS   MD   MD   Shot   Misfrest   Diameter   Carr type Stage No   Size   Preservoir   (usft)
CCL@ CCL-TS MD MD Shot Misfres/ Diameter (usft) (us	Formation   CCL_0   CCL_TS   MD   Base   Gensity   Add.   (in)   (usft)
CCL@ CCL-TS MD MD Shot Misfires/ Diar (usft) (shot/ft) Shot 7,543.0 7,545.0 3.00 7,614.0 7,730.0 7,731.0 3.00 7,730.0 7,731.0 3.00 7,802.0 7,803.0 3.00 7,802.0 7,803.0 3.00 7,802.0 7,803.0 3.00 7,803.0 7,803.0 7,803.0 3.00 7,803.0 7,803.0 7,803.0 3.00 7,803.0 7,803.0 7,803.0 3.00 7,803.0 7,803.0 7,803.0 7,803.0 3.00 7,803.0 7,803	Formation   CCL_R
CCL@ CCL-TS MD MD Shot (usft) (usft) (usft) (usft) (usft) (usft) (shot/ff) (usft) (shot/ff) (usft) (shot/ff) (shot/f	Formation   CCL@ CCL-TS   MD   MD   Shot
CCL@ CCL-TS MD MD base (usft)	Formation   CCL@ CCL-TS   MD   MD   MD
CCL@ CCL-TS (usft) (usft)	Formation   CCL @ CCL-TS     Reservoir   (usft)   (usft)     ME S A V E     ME
	Formation/ Reservoir RES AVE RDE/ MES AVE

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Perforated Interval (Continued)

Date	Formation/	@\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	CCL-TS	Q Q			Misfires/	Diameter	Carr type /Stage No	Carr	Phasing	Charge desc.	Charge	Reason	Misrun	
	Reservoir	(nstf.)	(nsft)	top (usft)	base (nsft)	density (shot/ft)	Add. Shot	<u>(i</u>		size (in)	 ©	/Charge manufacturer	weight (gram)			Conveyed
12/8/2014 12:00AM	MESAVE RDE/			8,175.0	8,176.0	3.00		0.410 EXP/	XP/	3.125	120.00		19.00	19.00 PRODUCTION		
12/8/2014 12:00AM	MESAVE RDE/			8,234.0	8,235.0	3.00		0.410 EXP/	XP/	3.125	120.00		19.00	19.00 PRODUCTION		
12/8/2014 12:00AM	MESAVE RDE/			8,274.0	8,275.0	3.00		0.410 EXP	:XP/	3.125	120.00		19.00	19.00 PRODUCTION		
12/8/2014 12:00AM	MESAVE RDE/			8,407.0	8,408.0	3.00		0.410 EXP/	XP/	3.125	120.00		19.00	19.00 PRODUCTION		
12/8/2014 12:00AM	MESAVE RDE/			8,425.0	8,426.0	3.00		0.410 EXP/	:XP/	3.125	120.00		19.00	19.00 PRODUCTION		
12/8/2014 12:00AM	MESAVE RDE/			8,432.0	8,433.0	3.00		0.410 EXP/	XP/	3.125	120.00		19.00	19.00 PRODUCTION		
12/8/2014 12:00AM	MESAVE RDE/			8,460.0	8,461.0	3.00		0.410 EXP/	XP/	3.125	120.00		19.00	19.00 PRODUCTION		
12/8/2014 12:00AM	MESAVE RDE/			8,476.0	8,477.0	3.00		0.410 EXP/	XP/	3.125	120.00		19.00	19.00 PRODUCTION		
12/8/2014 12:00AM	MESAVE RDE/			8,486.0	8,487.0	3.00		0.410 EXP/	XP/	3.125	120.00		19.00	19.00 PRODUCTION		
12/8/2014 12:00AM	MESAVE RDE/			8,511.0	8,512.0	3.00		0.410 EXP/	XP/	3.125	120.00		19.00	19.00 PRODUCTION		
12/8/2014 12:00AM	MESAVE RDE/			8,530.0	8,531.0	3.00		0.410 EXP/	XP/	3.125	120.00		19.00	19.00 PRODUCTION		
12/8/2014 12:00AM	MESAVE RDE/			8,573.0	8,575.0	3.00		0.410 EXP/	XP/	3.125	120.00		19.00	19.00 PRODUCTION		
12/8/2014 12:00AM	MESAVE RDE/			8,671.0	8,673.0	3.00		0.410 EXP/	XP/	3.125	120.00		19.00	19.00 PRODUCTION		
12/8/2014 12:00AM	MESAVE RDE/			8,700.0	8,701.0	3.00		0.410 EXP/	XP/	3.125	120.00		19.00	19.00 PRODUCTION		
12/8/2014 12:00AM	MESAVE RDE/			8,708.0	8,709.0	3.00		0.410 EXP/	XP/	3.125	120.00		19.00	19.00 PRODUCTION		
12/8/2014 12:00AM	MESAVE RDE/			8,720.0	8,721.0	3.00		0.410 EXP/	XP/	3.125	120.00		19.00	19.00 PRODUCTION		
12/8/2014 12:00AM	MESAVE RDE/			8,730.0	8,731.0	3.00		0.410 EXP/	XP/	3.125	120.00		19.00	19.00 PRODUCTION		
12/8/2014 12:00AM	MESAVE RDE/			8,800.0	8,801.0	3.00		0.410 EXP	XP/	3.125	120.00		19.00	19.00 PRODUCTION		
12/8/2014 12:00AM	MESAVE RDE/			8,833.0	8,834.0	3.00		0.410 EXP/	XP/	3.125	120.00		19.00	19.00 PRODUCTION		
12/8/2014 12:00AM	MESAVE RDE/			8,880.0	8,881.0	3.00		0.410 EXP/	XP/	3.125	120.00		19.00	19.00 PRODUCTION		
12/8/2014 12:00AM	MESAVE RDE/			8,902.0	8,903.0	3.00		0.410 EXP/	:XP/	3.125	120.00		19.00	19.00 PRODUCTION		
12/8/2014 12:00AM	MESAVE RDE/			8,918.0	8,919.0	3.00		0.410 EXP/	:XP/	3.125	120.00		19.00	19.00 PRODUCTION		

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January 06, 2015 at 10:59 am

Perforated Interval (Continued)

Misrun How Guns	Conveyed																	
Misrun																		
Reason		19.00 PRODUCTION																
Charge	weight (gram)	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00
Charge desc.	/Charge manufacturer																	
Phasing	<u> </u>	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00
	size (in)	3.125	3.125	3.125	3.125	3.125	3.125	3.125	3.125	3.125	3.125	3.125	3.125	3.125	3.125	3.125	3.125	3.125
er Carr type /Stage No		0.410 EXP/																
Diameter	(ii)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Misfires/	Add. Shot																	
Shot	density (shot/ft)	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Ð	base (usft)	8,931.0	8,943.0	8,954.0	8,997.0	0.600,6	9,025.0	9,085.0	9,095.0	9,127.0	9,182.0	9,254.0	9,345.0	9,418.0	9,432.0 9,433.0	9,441.0	9,455.0	9,470.0 9,471.0
MD	top (usft)	8,930.0	8,942.0	8,953.0	8,996.0	9,008.0	9,024.0	9,084.0	9,094.0	9,126.0	9,180.0	9,253.0	9,344.0	9,417.0	9,432.0	9,440.0	9,454.0	9,470.0
CCL-TS	(usft)																	
@700	(nstt)																	
Formation/	Reservoir	MESAVE RDE/																
Date		12/8/2014 12:00AM																

3 Plots

January 06, 2015 at 10:59 am